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ABSTRACT

This publication is the complete report of A Study of the Comprehensive High School in Massachusetts. The study, which began in 1969, had four phases. Phase 1 was a wide-ranging survey of 251 Massachusetts public high schools. Phase 2 was a more intensive study of 33 representative schools, in which consultants gathered information on the attitudes and perceptions of school personnel, students, and parents. Phase 3 consisted of a series of regional conferences, which were held to present and discuss 10 position papers on current ideas and practices for school improvements. Phase 4 involved the preparation of tentative recommendations and the dissemination of the recommendations to professional groups and individuals concerned with secondary education in Massachusetts. This report presents the study recommendations, as well as the significant findings of the study, and the opinions expressed by staff members, students, and parents about their high schools. In addition, the report also contains the various questionnaires used in the study, the 10 position papers presented at the regional conferences, and other pertinent information about the study and its methodology. (Author/JG)

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QUALITY EDUCATION FOR THE HIGH SCHOOLS IN MASSACHUSETTS

A Study of the Comprehensive High School in Massachusetts

Lloyd S. Michael, Director
Northwestern University

in cooperation with

The Massachusetts Secondary School Principals Association

Report Prepared for the Massachusetts Advisory Council on Education

William C. Gaige, Director of Research

April 1971

EA 007 357

ERRATA

First paragraph on page 3:

> This is the complete report of A Study of the Comprehensive High School in Massachusetts. The Study was authorized in July, 1969 by the Massachusetts Advisory Council on Education. The purpose of the Study was to help the public high schools of the Commonwealth achieve excellence for their widely diversified student populations.

Last paragraph on page 3:

> This report contains the recommendations in the Summary Report; the significant findings of the Study; the opinions that administrators, teachers, students, and parents had about their high school; and the needed directions for change and improvement. The report also contains the 10 position papers, copies of the several questionnaires used in the Study, and other pertinent information.

Last sentence in the third paragraph on page 4:

> Other consultants who gave invaluable help are listed in this report.

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In addition, seven other persons presented position papers.

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FOREWORD

In its first years the Council is undertaking examinations of the major systems of public education in the Commonwealth -- vocational education, adult education, education of the handicapped and deprived and others. The Council now presents an extensive and intensive analysis of the state's system of comprehensive high schools. Following consultations across the country, the Council engaged the services of Dr. Lloyd S. Michael as Director of the Study. Dr. Michael is Professor of Education at Northwestern University and was for twenty years Superintendent of Evanston Township High School, Evanston, Illinois, consistently rated as one of the half dozen finest high schools in America. As the Study was planned, the Massachusetts Association of Secondary School Principals entered into special cooperation which has resulted in the participation of all elements in high schools, in the careful review of the recommendations by the policies and executive committees and in a commitment by the Association to work towards the implementation of the recommendations.

As the Study was planned all agreed to direct the Study towards defining programs and standards and making recommendations which would be applicable and hopeful of response by all of the high schools -- not just those in a few of the most progressive, affluent communities. Dr. Michael has accomplished this aim so well that implementation of most of the recommendations in the spirit in which they are made will assure excellent schools in the 1980's responsive to the yet unknown needs of that time.

The Council is grateful to the hundreds of school and university people, government servants and laymen who have contributed their time and talent to the Study. The members express their appreciation to the New England School Development Council for housing and servicing the Study and sharing with us the Study's Assistant Director.

The Council presents this extensive and significant report to the people of Massachusetts and their political and educational leaders. School systems singly and collectively, the education boards and the Secretary for Educational Affairs have a long, hard agenda and effort before them to assure good education to all of our youth and the happiness and wealth which well educated youth will assure in return.

William C. Gaige
Director of Research
Massachusetts Advisory Council
on Education
April 1971

PREFACE

The Massachusetts Secondary School Principals Association was most willing to cooperate in the MACE Study of the Comprehensive High School in Massachusetts. At a joint meeting in April 1969 the Executive Board and the Educational Policies Committee of MSSPA voted unanimously to participate in this Study. During the course of the Study, representative groups of MSSPA members met with Study staff members, and individual principals and members of their staffs cooperated in completing questionnaires and in interviews.

The Study re-establishes the importance of the comprehensive high school as the type of institution that can, in Dr. L. S. Michael's words, "meet the educational, vocational, and avocational needs of all youth in a community most effectively and economically."

Although the Massachusetts Secondary School Principals Association supports at least ninety percent of the recommendations included in the Report and cooperated in the Study as an Association, MSSPA does not necessarily concur in every recommendation made by the Study staff.

The Report should be read by everyone in Massachusetts interested in the progress of secondary education in the Commonwealth. It should be studied and discussed by all members of every board responsible for developing policies for secondary education as well as by all persons professionally involved in secondary education in Massachusetts.

Bertram H. Holland
Executive Secretary-Treasurer
Massachusetts Secondary School
Principals Association

INTRODUCTION

This is the Summary Report of the recommendations made in A Study of the Comprehensive High School in Massachusetts, which was authorized in July 1969 by the Massachusetts Advisory Council on Education. The purpose of the Study was to help the public high schools of the Commonwealth achieve excellence for their widely diversified student populations.

The Study was organized into four phases. The first was a survey of the status of 251 of the 305 public high schools, including regular, regional, vocational-technical and trade, and regional vocational-technical high schools. This survey included a questionnaire which collected data in 11 categories: general information, institutional objectives and philosophy, subject areas, staff and administration, guidance services, student withdrawals and educational and vocational intentions, student activities program, educational media services, community-school relations, school physical facilities, and financial resources.

The second phase was a study of 33 representative high schools by two or more consultants, who conferred with school personnel concerning major problems, needs and barriers to change and improvement; with staff members on their attitudes and perceptions of the ways the schools might be improved; and with students on their attitudes and aspirations and on their perceptions of school experiences. Information was also obtained from parents concerning their expectations for their children and their satisfactions and dissatisfactions with the programs of their schools. Reports from 33 alternate schools were studied as a part of the survey.

The third phase consisted of a series of regional conferences to present position papers on current ideas and practices for school improvements and to discuss these papers with school committee members, superintendents, principals, teachers and parents.

The fourth phase was the preparation of tentative recommendations and their dissemination for reactions and comments to various professional individuals and groups concerned with secondary education in the Commonwealth.

The complete report of A Study of the Comprehensive High School in Massachusetts contains the recommendations in this Summary Report; the significant findings of the Study; the opinions that administrators, teachers, students, and parents had about their high school; and the needed directions for change and improvement. The full report also contains the 10 position papers, copies of the several questionnaires used in the Study, and other pertinent information.

The Study had the official endorsement of the Massachusetts Secondary School Principals Association and was conducted in collaboration with the Association. In April 1969 before the Study was initiated, the Executive Board and Educational Policies Committee of the Association unanimously endorsed the need for a study of the comprehensive high school and approved their participation and cooperation.

The Association's cooperation and involvement throughout the Study were most encouraging and valuable. In addition, the Teachers Advisory Committee, consisting of representatives from the Massachusetts Teachers Association and the Massachusetts Federation of Teachers, was likewise helpful and supportive of the various phases of the Study.

As director of the Study, I was ably assisted by Dr. John R. Sullivan, Jr., Director of Field Services, New England School Development Council, which organization served as the center for the activities of the Study. Dr. Charles W. Sanford, Professor of Education and Dean of Admissions and Records, Emeritus, University of Illinois, served as my valued chief consultant. Other consultants who gave invaluable help are listed in this report and also in the complete report.

I wish to acknowledge with great appreciation the assistance of a large percentage of the faculty members in the high schools who responded to the fact-finding questionnaire. I am also most grateful to the many educators, parents, and students who aided the staff in the schools selected for the depth survey.

The Study Committee, comprised of 29 professional educators and lay leaders in education, proved most helpful in advising the staff and in reacting to the findings and tentative recommendations. The Division of Research and Development in the Department of Education made available information from its data banks that otherwise would have been difficult to collect within the time and resources available. Special thanks are due Dr. William C. Gaige, Director of Research for the Massachusetts Advisory Council on Education, for his participation in all aspects of the Study and for his counsel and numerous contributions to the final report.

The recommendations which follow are being made to achieve excellence for the diverse student bodies that characterize the public high schools in the Commonwealth. It is our conviction that to meet the educational needs of these varied student groups that schools must experiment with new ideas and make basic alterations in their conventional standards and practices. The comprehensive high school of tomorrow, if it is to be markedly better and achieve its objectives more effectively, must differ in many ways from the school of today. The whole concept of the high school - its functions, its curriculum, its organization for instruction, its staffing pattern, its facilities for teaching and learning, its financing - must undergo basic changes. There must be a recognition that to achieve excellence through diversity schools must make imaginative use of all these resources - time, space, program, people, and money.

The recommendations in this report are designed for the comprehensive improvement of the total educational experience for all high school youth. It is our hope that the recommendations will be implemented by all those concerned with improving the quality of secondary education in Massachusetts.

Lloyd S. Michael
Director

Chapter 1

PROCEDURES UTILIZED IN THE STUDY AND GENERAL INFORMATION

Procedures Utilized in the Study

In carrying out the purposes of the Study, the Director and his staff have, following consultation with educational leaders and groups in Massachusetts: (1) gathered, organized, and interpreted pertinent data; (2) enlisted ideas and professional judgments relative to the direction of change and of promising practices; (3) organized regional conferences and presented promising innovative practices and research studies concerned with the improvement of high school education; (4) prepared tentative recommendations aimed at the improvement of secondary education and obtained reactions to them from several major committees in Massachusetts; and (5) prepared and submitted a final report to the Advisory Council.

The Study was organized around four phases as follows:

I. A survey of the present status of the high schools in Massachusetts. This phase of the Study was primarily concerned with the gathering and interpreting of data about the high schools as they now function though attention was given to changes the schools considered important.

   A. A search was made for all pertinent reports, research studies, and other factual material available from the New England Association of Colleges and Secondary Schools, the State Department of Education, and others.

   B. An analysis was made of relevant national and regional studies to obtain data concerned with education in high schools, including Massachusetts.

   C. A questionnaire was prepared to collect from all high schools the most recent data and information available to determine: (1) the comprehensiveness of the program and services; (2) blocks to change and improvement; (3) readiness to effect change; (4) the areas in which change was most needed; and (5) changes and innovations already made that seem to have effected improvement in the school. The Study staff prepared the questionnaire, several individuals and groups, including the Study

Committee, suggested modifications, and all principals were asked to see that it was completed. Particular attention was given in other phases of this Study to relations with students and parents.

1. Data were collected in these categories:

    General Information
    Institutional Objectives and Philosophy
    Subject Areas
    Guidance Services
    Student Withdrawals and Educational and Occupational Intentions
    School Staff and Administration
    Student Activities Program
    Educational Media Services - Library and Audio-Visual
    School Physical Facilities
    School-Community Relations
    Financial Resources

2. The critical factors were emphasized in the types of information requested. They were: (1) the degree of comprehensiveness of the program and services, and (2) the efforts aimed at change and innovation. Included in each section of the questionnaire were spaces where the respondents were asked to indicate changes and innovative practices introduced within the past five years and those planned for implementation during the next five years.

3. Local school studies and research projects that might be valuable to the findings of the Study were requested and analyzed.

II. A study was made of 33 representative high schools to check the accuracy of the interpretations by the consultants of the data obtained from the initial school questionnaire and to add factual information and opinions that were not obtained from the school questionnaire.

A. Bases for selecting the 33 schools.

1. The general provisions for selecting the schools were as follows:

   (a) The purpose was to select a sample as nearly representative of the public high schools in Massachusetts as possible.

   (b) Thirty-three was chosen as a feasible number for field visits.

   (c) One innercity high school in Boston was chosen on the basis of descriptive information. Others were selected by a procedure of randomization from representative groups.

   (d) The criteria for grouping schools were the following: (1) geographic distribution; (2) type of school--regular, regional, vocational-technical and trade, and regional vocational-technical; (3) grade organization--7-12, 9-12, and 10-12; (4) size of school--three categories; and (5) expenditure per pupil for current operating costs--three categories.

2. The sampling procedure was as follows:

   (a) Schools were classified by type; geographic location--city and county; grade organization; size: (1) small--under 800 pupils, (2) medium--800-1,399 and (3) large--over 1,400; and expenditure per pupil: (1) low third of each type, (2) middle third of each type, and (3) high third of each type.

   (b) The schools were arranged into three size groups within each of the expenditure groups for each of the four types of schools according to grade organization.

   (c) Quotas to be chosen were assigned on the basis of proportional numbers of schools in the respective groups.

   (d) Schools were picked from the groups by use of a table of random numbers.

   (e) Two arbitrary conditions were established: (1) one innercity high school in Boston was chosen from descriptive information, (2) a minimum of one school was selected from each county.

3. The willingness of the 33 schools to cooperate in this phase of the Study was, of course, essential.

B. Information and opinions were obtained regarding the following items:

1. Administrator comments concerning major problems, issues, and needs of the high school were obtained from questionnaires and interviews.

2. Teacher attitudes and perceptions of their role in the school and how the school might be improved were obtained from questionnaires and interviews.

3. Student attitudes and aspirations about themselves, and perceptions about their school experiences and the need for change and improvements which they believed would be of help to them were obtained from questionnaires and interviews.

4. Parent expectations for their children and their satisfaction and dissatisfaction with the program of the school in meeting these expectations were obtained from questionnaires.

   The students and the parents who were asked to complete the questionnaires, which were different and designed specifically for the two groups, were selected on a sampling basis and in such a way that parents and students from the same family did not participate.

5. Significant political, social and economic factors in the community which affected an understanding and support of the school were obtained from interviews with administrators and teachers and, to some extent, from questionnaires from them.

C. Each of the selected high schools was visited by at least two members of the staff and consultants. Typical schedules followed by the staff and consultants follow:

Consultant 1

8:00 a. m.	Review schedule for the day with the Principal
8:15 a. m.	Conference with a Home Economics teacher (The subject areas represented by the teachers interviewed were varied so that a distribution of teachers was obtained from all departments in approximate proportion to the total number of teachers in the various departments in the 33 schools.)

8:45 a.m. Conference with a Business Education teacher.
9:15 a.m. Conference with an Art teacher.
9:45 a.m. Conference with the guidance counselors.
10:45 a.m. Conference with 10 students (potential dropouts, dissidents.)
11:15 a.m. Conference with 10 students (Leaders.)
11:45 a.m. Lunch.
12:15 p.m. Examination of physical facilities.
1:15 p.m. Conference with the Head Custodian.
1:45 p.m. Conference with the Head of Cafeteria.
2:15 p.m. Conference with the Department Heads.

Consultant 2

8:00 a.m. Review schedule for the day with the Principal.
8:15 a.m. Conference with the Superintendent of Schools.
9:15 a.m. Conference with the High School Principal.
10:15 a.m. Conference with a Science teacher.
10:45 a.m. Conference with a Foreign Languages teacher.
11:15 a.m. Conference with a Mathematics teacher.
11:45 a.m. Lunch.
12:15 p.m. Conference with the Head of Educational Media Services.
1:15 p.m. Observation of innovations and problem areas.
2:15 p.m. Conference with Department Heads.

Too much cannot be said about the high degree of cooperation afforded the consultants in their visits to these schools.

III. All high schools in the State were invited to consider in conferences new ideas, promising innovative practices and research studies concerned with the improvement of high school education with particular attention to their applicability in Massachusetts.

A. A series of five regional conferences were held in various sections of the State. Invited to participate in these conferences were the high school principal, the superintendent or his representative, a teacher, a parent or other layman, and a school committee member.

B. At each conference consultants presented two position papers on essential phases of school improvement.* The program included the use of reactors and panels from the high schools represented at the conference.

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*The 10 papers will be found in Chapter 6.

IV. The Study report was prepared and the recommendations contained therein are being disseminated and considered for implementation.

   A. The staff prepared tentative recommendations for the improvement of the high schools of Massachusetts, together with necessary supporting data from Phases I, II and III.

   B. The tentative recommendations and necessary supporting data were presented to the Study Committee, the Education Conference Board, the Teacher Advisory Committee and other individuals in Massachusetts and elsewhere for comments and reactions.

   C. The Director of the Study and the staff for the Study prepared the final report.

   D. The final report has been presented to the Study Committee and to the Advisory Council on Education and plans reviewed for its implementation.

General Information

Table 1 indicates that 251 or 82.3 percent of the 305 public high schools returned the initial school questionnaire.

Table 1

DISTRIBUTION OF SCHOOLS RETURNING INITIAL SCHOOL QUESTIONNAIRE

Type of School	Number of Schools*	Number & Percent Returning Questionnaire** No.	%
Regular High School	204	177	86.7
Regional High School	42	39	92.8
Vocational-Technical & Trade	50	26	52.0
Regional Vocational-Technical	9	9	100.0
Total	305	251	82.3

*As of October 1, 1969
**As of June 15, 1970

Table 2 shows the number of parents, principals, superintendents, teachers, and students in the 33 representative schools who were given and who returned the questionnaire. Five different questionnaires were given, one for each group, i.e. parents, principals, superintendents, teachers, and students. The questionnaires were given to all of the principals, superintendents, and teachers and to 10 percent samples of the parents and students. As Table 2 indicates, the questionnaires were returned by 1106 or 37.2 percent of the parents, by 33 or 100.0 percent of the principals, by 27 or 81.8 percent of the superintendents, by 1821 or 77.1 percent of the teachers, and by 2748 or 92.4 percent of the students.

Table 2

NUMBER OF PARENTS, PRINCIPALS, SUPERINTENDENTS, TEACHERS AND STUDENTS IN 33 REPRESENTATIVE SCHOOLS RETURNING QUESTIONNAIRES

	Number Given Questionnaire	Number Returning Questionnaire	Percent Returning Questionnaire
Parents	2972	1106	37.2
Principals	33	33	100.0
Superintendents	33	27	81.8
Teachers	2362	1821	77.1
Students	2972	2748	92.4

In considering education at the high school level in Massachusetts it is important to note that most of the students are currently enrolled in regular and regional high schools and relatively few in vocational-technical and trade and regional vocational-technical high schools. As Table 3 indicates, 235,404 students, or 94.3 percent of the total of 249,724 in the 251 schools were enrolled in 177 regular and 39 regional high schools. The remainder, a total of 14,320 students, or 5.7 percent were in 26 vocational-technical and trade schools and in nine regional vocational-technical schools.

Data reported by the Division of Research and Development, Massachusetts Department of Education, indicate there were a total of 319,181 students enrolled in grades 9-12 and postgraduate on October 1, 1969.* In this Study, grade 9 was not included in enrollment and other data unless it was a part of the high school which submitted the report.

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*Facts About Education in Massachusetts, Division of Research and Development, Massachusetts Department of Education, February, 1970.

Table 3

ENROLLMENT IN 251 PUBLIC SCHOOLS RETURNING INITIAL QUESTIONNAIRE*

Grades 9 - 12, Special and Postgraduate

Type of School	Number of Schools	Enrollment
Regular	177	204,492
Regional	39	30,912
Vocational-Technical and Trade	26	9,621
Regional Vocational-Technical	9	4,699
Total	251	249,724

*As of October 1, 1969

The number of graduates in 1969 from the 251 schools is reported in Table 4.

Table 4

NUMBER OF GRADUATES IN 1969 FROM 251 HIGH SCHOOLS
BY SEX AND TYPE OF SCHOOL

Type of School	Number of Schools	Boys		Girls		Total
		No.	%	No.	%	
Regular	177	23378	48.3	25009	51.7	48387
Regional	39	2970	48.6	3146	51.4	6116
Vocational-Technical and Trade	26	2084	79.6	534	20.4	2618
Regional Vocational-Technical	9	566	96.8	19	3.2	585
Total	251	28998	50.3	28708	49.7	57706

The grade levels included in 246 of the 251 high schools are indicated in Table 5. A total of 127 or 51.6 percent of the schools included grades 9-12 and 65 or 26.4 percent included grades 10-12.

Nearly all of the 237 high schools, a total of 222 or 93.7 percent reported, as Table 6 shows, that they operated on the single session plan. Eight, or 3.4 percent, used double sessions.

Table 5

GRADE LEVELS INCLUDED IN 246 OF THE 251 HIGH SCHOOLS BY TYPE OF SCHOOL

Grade Levels	Type of School								Total	
	Regular		Regional		Voc.-Tech. & Trade		Regional Voc.-Tech.			
	No.	%	No.	%	No.	%	No.	%	No.	%
9-12	86	49.1	20	51.3	14	58.3	7	87.5	127	51.6
10-12	59	33.8	2	5.1	4	16.7			65	26.4
7-12	23	13.1	16	41.0					39	15.9
Other	7	4.0	1	2.6	6	25.0	1	12.5	15	6.1
Total Reporting	175	100.0	39	100.0	24	100.0	8	100.0	246	100.0
No Response	2				2		1		5	

Table 6

TYPES OF SCHEDULE SESSIONS USED BY 237 OF THE 251 HIGH SCHOOLS BY TYPE OF SCHOOL

Type of Session	Type of School									
	Regular		Regional		Voc.-Tech. & Trade		Regional Voc.-Tech.		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Single	155	93.4	35	89.7	24	100.0	8	100.0	222	93.7
Staggered	4	2.4	2	5.1					6	2.5
Double	7	4.2	1	2.6					8	3.4
Other			1	2.6					1	.4
Total Reporting	166	100.0	39	100.0	24	100.0	8	100.0	237	100.0
No Response	11				2		1		14	

Chapter 2

SIGNIFICANT FINDINGS

Administrators and teachers believe their schools are making excellent contributions to the education provided the students. The administrators and teachers were trying promising changes designed to further improve the schools and they reported many additional ways to improve them, given the needed resources. These general conclusions are based on an analysis of data gathered from 251 schools* and from additional information and opinions obtained from questionnaires,** interviews, and observations in 33 sample schools.

This chapter is concerned with reporting some of the significant findings revealed by an analysis of the data in the instrument completed by the 251 schools, including the 33 sample schools. Chapter 3 reports other significant findings obtained from questionnaires completed by parents, administrators, teachers, and students, from interviews with administrators, teachers, and students, and from observations in the schools by consultants. The various sections of the chapter are presented in the order in which they appear in the initial school questionnaire except that "Section A:General Information" has been included in the preceding chapter.

Institutional Objectives and Philosophy

A total of 238 high schools, or 95 percent of the 251, reported they have a written statement of objectives and philosophy which was formulated during the past five years. Of the 251 schools, 143 or 57 percent indicated they were presently re-studying the statement.

Teachers and administrators were primarily involved in the formulation of statements of objectives and philosophy, as Table 7 indicates, with much less participation by school committees, parents, and students.

The number and percentage of schools which assigned different degrees of importance to 10 educational purposes are reported in Table 8. The 10 purposes are frequently implied in statements of objectives and philosophy.

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*A copy of the questionnaire is in Appendix A, page 262.

**Copies of the questionnaires are in Chapter 3.

Table 7

PARTICIPANTS INVOLVED IN THE FORMULATION OF THE SCHOOL'S STATEMENT OF OBJECTIVES AND PHILOSOPHY

Type of School	Number and Percentage of Schools in Which Various Participants Were Involved											
	Adm.		Teachers		School Com.		Parents		Students		NR	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Regular	159	89.8	165	93.2	52	29.4	13	7.3	28	15.8	5	2.8
Regional	34	87.2	36	92.3	22	56.4	5	12.8	7	17.9	2	5.1
Vocational-Technical & Trade	17	65.4	13	50.0	5	19.2			2	7.7	5	19.2
Regional Vocational-Tech.	6	66.7	4	44.4	3	33.3					3	33.3
Total	216	86.1	218	86.8	82	32.7	18	7.2	37	14.7	15	5.9

It will be noted that 222 schools, or 88.4 percent, reported that preparation for responsible participating citizenship was considered either very important or important in their statement of philosophy. In actual practice 214 schools, or 85.3 percent indicated such preparation was either very important or important.

Table 9 shows the comparative rank-order of importance assigned a "very important" rating to these 10 purposes by schools, parents, and students. One important difference in this ranking was that parents assigned the highest importance to the development of acceptable competencies, skills, or appreciation in moral and ethical behavior whereas the schools estimated this to be the lowest expectation of members of the community. Preparation for college was given the highest ranking in importance by the schools in actual practice and in community expectations, the second highest ranking by the students, and the fifth highest ranking by parents and in the schools' statement of philosophy.

Table 8

IMPORTANCE OF EDUCATIONAL PURPOSES REPORTED BY SCHOOLS

Purposes	School's Statement of Objectives and Philosophy								Actual Practice in the School								Community Expectations							
	1		2		3		NR		1		2		3		NR		1		2		3		NR	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Preparation for college	125	49.8	66	26.3	29	11.6	31	12.3	142	56.6	54	21.5	20	8.0	35	13.9	147	58.6	42	16.7	22	8.8	40	15.9
Preparation for employment	119	47.4	88	35.1	16	6.4	28	11.1	84	33.5	107	42.6	27	10.8	33	13.1	97	38.7	90	35.9	27	10.7	37	14.7
Preparation for leisure time	44	17.5	114	45.4	64	25.5	29	11.6	22	8.8	110	43.8	86	34.3	33	13.1	21	8.4	73	29.1	120	47.8	37	14.7
Preparation for changing world	113	45.0	95	37.9	13	5.2	30	11.9	72	28.7	130	51.8	15	6.0	34	13.5	55	21.9	123	49.0	34	13.5	39	15.5
Preparation for responsible participating citizenship	184	73.3	38	15.1	1	.4	28	11.1	135	53.8	79	31.5	4	1.6	33	13.1	119	47.4	87	34.7	7	2.8	38	15.1
Development of understanding and appreciation of our cultural heritage	110	43.8	96	38.2	15	6.0	30	12.0	72	28.7	127	50.6	19	7.6	33	13.1	50	19.9	126	50.2	37	14.7	38	15.1
Education for international understanding	53	21.1	117	46.6	48	19.1	33	13.1	52	20.7	115	45.8	46	18.3	38	15.1	31	12.3	91	36.3	86	34.3	43	17.1
Development of acceptable competencies, skills, understandings and/or appreciation in																								
Moral & ethical behavior	160	63.8	54	21.5	5	2.0	32	12.7	108	43.0	93	37.1	15	6.0	35	13.9			201	80.1	9	3.6	41	16.3
Human relations	128	51.0	76	30.3	14	5.6	33	13.1	86	34.3	109	43.4	19	7.6	37	14.7	67	26.7	112	44.6	30	12.0	42	16.7
Physical & mental health	132	52.6	81	32.3	7	2.8	31	12.3	88	35.1	110	43.8	18	7.2	35	13.9	79	31.5	131	52.2			41	16.3

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* 1 - Very important
2 - Important
3 - Less important
NR - No response

Table 9

COMPARATIVE RANK-ORDER OF IMPORTANCE OF EDUCATIONAL PURPOSES*

Purposes	Ranking by 251 Schools: In School's Statement of Philosophy	Ranking by 251 Schools: In Actual Practice in School	Ranking by 251 Schools: In Community Expectations	Ranking by 1106 Parents	Ranking by 2748 Students
Preparation for college	5	1	1	5	2
Preparation for employment	6	6	3	3	1
Preparation for leisure time	10	10	9	10	10
Preparation for changing world	7	7	6	7	5
Preparation for responsible participating citizenship	1	2	2	4	6
Development of an understanding of our cultural heritage	8	7	7	9	9
Education for international understanding	9	9	8	8	8
Development of acceptable competencies, skills, understandings and/or appreciation in:					
Moral & ethical behavior	2	3	10	1	7
Human relations	4	5	5	2	3
Physical & mental health	3	4	4	6	4

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*1 - Very important
2 - Important
3 - Less important
NR - No response

Subject Areas

Extensive data were collected concerning each subject area. The data clearly show many changes and innovations are underway in a large number of schools. While space does not permit the presentation of all of the data some of the most significant items follow.

The median professional staff-student ratios reported in the 251 schools in the various subject areas are indicated in Table 10. A great range will be noted of from a median of one full-time professional staff member per 100 or fewer students in Agriculture, Distributive Education, Foreign Languages, Home Economics, Industrial Arts, Trades and Industry and in most schools in English to 1:226 or more in Physical Education and in a few schools in Music.

The percentages of the schools offering special programs in subject areas are shown in Table 11. The incidence of the special programs indicates an effort to individualize instruction. This seems to be particularly true for those who need remedial instruction and for those who would profit from honors programs.

The most significant changes and revisions reported by 66* representative schools in subject-matter content during the past five years seemed to be related directly to improvements in comprehensiveness, quality, and relevance. For example, increased comprehensiveness was being sought through changes in the subject-matter offered the non-college bound; improved quality through such "new" courses as BSCS and PSSC in Science and Data Processing in Business Education; and relevance through the study of pollution and drugs in Science, linguistics and contemporary literature in English, and intensified office practice in Business Education.

The most significant changes and revisions reported by 66 schools in the instructional materials used during the past five years center on the increased use of audio-visual aids. For example, 55 of the 66 schools, or 83.3 percent cited the increased use of such aids in English as the most significant change. Other changes in instructional materials, in one or more subjects, which were mentioned frequently included the increased use of paperbacks, community resources, supplementary materials, laboratory equipment, and the adoption of new textbooks. Since the changes in subject-matter appear to be related directly to increased comprehensiveness, quality, and relevance it follows that the changes in instructional materials should have the same relationship. The emphases seemed to be, therefore, on the use of materials which permit in-depth study, which was current and up-to-date, which was geared to varying ability levels, and which was interesting and relevant.

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*The 66 included the 33 sample schools and 33 alternate schools. The responses to some of the items in the initial questionnaire completed by the alternate schools were checked for comparability with the responses from the 33 sample schools.

Table 10

MEDIAN PROFESSIONAL STAFF (FTE) - STUDENT RATIOS* IN SUBJECT AREAS

Type of School	No. of Schools	Agr.	Art	Bus. Ed.	D.E.	Dr. Ed.	Eng.	For. Lang.	Health	H. Ec.	I.A.	Math.	Music	P.E.	Sci.	Soc. St.	T. & I.
Regular	177	1	2	1	1	2	1	1	4	1	1	2	4	9	2	2	1
Regional	39	1	2	2	1	2	1	1	3	1	1	2	6	7	1	2	1
Vocational-Technical and Trade	26	1	2	1	1	1	1	1	5	1	1	1	1	10	1	2	1
Regional Vocational-Technical	9				1	1	2					2	10	7	2	3	1

*1 - the equivalent of one full-time professional staff member per 100 or fewer students. In computing ratios the schools which did not respond were excluded.
2 - 101 - 125
3 - 126 - 150
4 - 151 - 175
5 - 176 - 200
6 - 201 - 225
7 - 226 - 250
8 - 251 - 275
9 - 276 - 300
10 - 301 or more

Table 11

PERCENTAGES OF SCHOOLS OFFERING SPECIAL PROGRAMS IN SUBJECT AREAS

Type of School	No. of Schools	Special Programs	Agr.	Art	Bus. Ed.	D. E.	Dr. Ed.	English	For. Lang.	Health	H. Ec.	I. A.	Math.	Music	P. E.	Sci.	Soc. St.	T. & I.
Regular	177	Remedial	0.5	4.5	12.4	0.5	6.2	50.2	11.2	2.2	3.3	7.9	36.7	6.2	21.5	5.1	12.4	1.6
		Special		9.0	9.6	1.6	6.2	19.2	3.9	6.1	16.9	14.1	7.9	6.7	14.7	2.8	6.7	1.6
		Work Study	0.5	12.9	28.2	15.8	6.2	23.1	4.4	3.9	8.4	20.3	10.1	8.4	7.9	7.3	12.9	7.9
		Honors		12.9	5.6	2.2	2.2	51.4	29.7	0.5	4.5	3.3	58.1	7.3	5.1	42.0	36.1	
		Adv. Placement	1.1	11.8	6.7	2.2		28.8	16.8	0.5	1.6	3.9	38.4	9.6	3.4	22.7	21.4	0.5
		Other	0.5	24.8	18.0	5.6	8.4	46.8	28.0	7.8	19.7	20.3	30.5	21.4	17.6	35.8	24.8	4.5
		NR	97.7	56.5	46.8	77.9	79.6	14.1	43.8	83.7	62.1	53.1	20.3	59.8	56.2	31.2	35.5	88.1
Regional	39	Remedial	2.5	10.2	12.8		5.1	46.1	5.1		5.2	5.2	35.9	7.6	15.3	10.2	17.9	
		Special	2.5	15.3	10.2	2.5	10.2	12.8	5.1	2.5	10.5	13.1	2.5	2.5	7.6	7.6	7.6	2.5
		Work Study	2.5	7.6	28.2	7.6	5.1	23.0	7.6		7.8	18.4	7.6	7.6	2.5	5.1	12.8	2.5
		Honors		7.6	2.5			48.7	28.2		5.2		43.5	5.1		46.1	28.2	
		Adv. Placement		12.8	5.1			17.9	15.3		5.2	5.2	38.4	12.8	2.5	17.9	7.6	2.5
		Other	2.5	28.2	15.3	2.5		38.4	28.2	2.5	10.5	21.0	20.5	10.2	12.8	38.4	33.3	5.1
		NR	94.8	53.8	56.4	92.3	84.6	17.9	43.5	94.8	65.7	52.6	30.7	69.2	66.6	23.0	38.4	92.3
Vocational-Technical and Trade	26	Remedial						30.7			3.8		23.0	3.8	3.8	3.8	7.6	26.9
		Special						19.2			3.8			3.8		7.6	3.8	19.2
		Work Study	3.8	11.5		15.3				3.8	11.5				7.6	3.8		15.3
		Honors		7.6				7.6			3.8	3.8	11.5		7.6	7.6	3.8	15.3
		Adv. Placement		7.6	3.8			3.8				3.8	3.8			7.6		26.9
		Other	3.8	11.5	3.8	3.8		11.5	3.8	7.6			15.3	3.8		23.0	19.2	46.1
		NR	96.1	80.7	93.3	80.7	100.0	53.8	96.1	88.4	88.4	96.1	57.6	96.1	84.6	69.2	76.9	34.6
Regional Vocational-Technical	9	Remedial						44.4					33.3				11.1	33.3
		Special													11.1			33.3
		Work Study				11.1							11.1				22.2	22.2
		Honors						11.1									11.1	
		Adv. Placement																
		Other					11.1						11.1	11.1				66.6
		NR	100.0	100.0	100.0	88.8	88.8	55.5	100.0	100.0	100.0	100.0	66.6	88.8	88.8	100.0	77.7	11.1

One of the most revealing findings is related to the changes or innovations in instructional and organizational practices which schools reported have been given major attention in subject areas. As Table 12 indicates, more than half of the schools reported that major attention had been given to large group instruction in Music and in Physical Education, to the individualization of instruction in Art, Health, Home Economics, and Industrial Arts, to problem-solving in Science and to continuous progress in Health. In addition, from one-third to one-half of the schools reported that major attention had been given to large group instruction in Driver Education, to small group instruction in Driver Education, Health, Home Economics, and Industrial Arts, to the individualization of instruction in Music, to the problem-solving approach in Art, Health, Industrial Arts, and Mathematics, and to continuous progress in Art, Business Education, Foreign Languages, Home Economics, Industrial Arts, Mathematics, Music, and Physical Education.

The schools reported that team teaching, which has received so much publicity in recent years, was not receiving major attention.

The extent of change or innovation reported in instructional and organizational practices in English, Science, and Business Education is presented in Tables 13, 14, and 15. Approximately three-fourths of the schools, it will be noted from Table 13, have been giving either major or moderate attention in English to small group instruction and to the individualization of instruction. Also, from one-third to three-fourths of the schools reported that such attention has been given to large group instruction, independent study, team teaching, the problem-solving approach, the interdisciplinary approach, and continuous progress. Three-fifths of the schools reported that the use of teacher aides in English had been rejected, dropped, given no attention, or not considered applicable.

In Science, as Table 14 indicates, more than three-fourths of the schools have been giving major or moderate attention to the use of the problem-solving approach. From one-third to three-fourths have been giving major or moderate attention to small group instruction, independent study, the individualization of instruction, the interdisciplinary approach, and to continuous progress.

Table 15 shows that major or moderate attention has been given in Business Education to the individualization of instruction by about two-thirds of the schools. Between one-third and two-thirds have given such attention to small group instruction, independent study, the problem-solving approach, and continuous progress.

Table 12

PERCENTAGE OF 251 HIGH SCHOOLS REPORTING CHANGES OR INNOVATIONS IN INSTRUCTIONAL AND ORGANIZATIONAL PRACTICES HAVE BEEN GIVEN MAJOR ATTENTION

Change or Innovation	Agr. %	Art %	Bus. Ed. %	D.E. %	Dr. Ed. %	Eng. %	For. Lang. %	Health %	H. Ec. %	I.A. %	Math. %	Music %	P.E. %	Sci. %	Soc. St. %	T. & I. %
Large group instruction		22	13	7	33	12	15	18	17	12	13	52	57	10	16	3
Small group discussion	2	31	18	12	33	30	19	46	39	37	16	27	9	18	28	18
Independent study	2	26	7	9	9	9	6	17	14	20	5	30	1	8	10	8
Team teaching		6	1		3	4		2	3	3	1	8	17	3	6	3
Teacher aides	1	1	5	2	5	7	7	1	1	5	4	6	11	4	6	3
Individualization of instruction	2	55	27	9	28	27	20	62	53	53	19	33	14	15	14	10
Problem-solving approach	2	48	32	11	21	16	9	33	31	41	42	11	6	51	28	13
Interdisciplinary approach	1	10	10	5	6	7	3	10	10	11	6	7	9	9	14	6
Nongraded programs		8	4		13	4	3	12	10	9	3	24	10	2	4	2
ontinuous progress	2	38	35	10	18	30	41	51	43	36	34	39	44	20	25	19
thers		7	5	3	3	7	8	9	8	4	5	4	6	8	7	2

Table 13

PERCENTAGE OF 251 HIGH SCHOOLS REPORTING THE EXTENT TO WHICH ATTENTION HAS BEEN GIVEN TO INNOVATION IN INSTRUCTIONAL AND ORGANIZATIONAL PRACTICES IN ENGLISH

Change or Innovation	Major Attention	Moderate Attention	Being Considered	Rejected	Dropped	No Attention	Not Applicable	NR
	%	%	%	%	%	%	%	%
Large group instruction	12.3	22.7	12.7	3.6	4.4	25.5	8.8	10.0
Small group discussion	29.9	47.8	4.4	0.4	0.8	8.3	0.8	7.6
Independent study	9.1	43.9	15.1	0.4	0.4	16.8	5.2	9.1
Team teaching	3.6	33.0	17.5	2.8	4.0	22.7	6.4	10.0
Teacher aides	6.8	8.0	9.6	2.4	2.4	46.6	11.1	13.1
Individualization of instruction	26.7	44.2	9.2			9.2	3.1	7.6
Problem-solving approach	16.0	33.9	7.1	0.4		16.3	16.3	10.0
Interdisciplinary approach	7.2	42.2	16.3	0.8	1.6	16.0	5.6	10.3
Nongraded programs	4.0	11.2	15.1	2.0	0.8	40.2	16.3	10.4
Continuous progress	30.3	12.0	9.6	0.4		22.7	9.1	15.9
Others	7.1	5.9	5.9			1.5	1.2	

Table 14

PERCENTAGE OF 250 HIGH SCHOOLS REPORTING THE EXTENT TO WHICH ATTENTION HAS BEEN GIVEN TO CHANGE OR INNOVATION IN INSTRUCTIONAL AND ORGANIZATIONAL PRACTICES IN SCIENCE

Change or Innovation	Major Attention %	Moderate Attention %	Being Considered %	Rejected %	Dropped %	No Attention %	Not Applicable %	NR %
Large group instruction	9.6	18.0	11.2	4.0	4.8	32.8	9.6	10.0
Small group discussion	18.4	37.6	10.0	0.4	1.2	16.8	6.4	9.2
Independent study	7.6	45.2	11.2	0.8	1.6	19.2	5.2	9.2
Team teaching	3.2	20.0	16.8	3.6	5.2	31.6	8.8	10.8
Teacher aides	4.0	8.0	22.0	2.4	1.2	38.8	12.4	11.2
Individualization of instruction	14.8	43.6	9.6		0.8	17.2	4.8	9.2
Problem-solving approach	51.6	28.4	2.8		0.4	6.0	1.6	9.2
Interdisciplinary approach	8.8	28.8	12.0	0.4	0.4	33.2	4.8	11.6
Nongraded programs	2.0	7.6	6.8	0.8		52.4	19.6	10.8
Continuous progress	20.0	15.6	4.4			32.8	9.2	18.0
Others	8.0	5.2	0.4		0.4	2.0	1.2	

Table 15

PERCENTAGE OF 251 HIGH SCHOOLS REPORTING THE EXTENT TO WHICH ATTENTION HAS BEEN GIVEN TO CHANGE OR INNOVATION IN INSTRUCTIONAL AND ORGANIZATIONAL PRACTICES IN BUSINESS EDUCATION

Change or Innovation	Major Attention %	Moderate Attention %	Being Considered %	Rejected %	Dropped %	No Attention %	Not Applicable %	NR %
Large group instruction	12.8	8.4	5.6	1.9	1.2	25.9	23.1	21.1
Small group discussion	17.5	29.9	3.6			12.4	14.3	22.3
Independent study	7.2	25.9	8.0		0.4	19.5	17.5	21.5
Team teaching	0.8	10.8	15.5	1.2	1.2	34.3	15.1	21.1
Teacher aides	5.2	6.8	10.4	0.8	1.6	35.0	18.3	21.9
Individualization of instruction	27.5	38.2	2.4			8.0	3.2	20.7
Problem-solving approach	31.9	27.1	3.6			6.4	9.1	21.9
Interdisciplinary approach	10.4	21.5	9.2		0.4	17.5	16.3	24.7
Nongraded programs	3.6	6.8	5.2		0.4	31.1	30.2	22.7
Continuous progress	34.7	12.4	5.2			11.9	10.3	25.5
Others	5.1	5.5	1.9		0.4	0.4	1.5	

Taking into consideration the entire program of the school from one-half to nine-tenths of the 251 high schools assessed the effectiveness of various provisions for articulation as either "Very effective" or "Effective." This is reported in Table 16. When, however, such diverse subject areas as English, Science, and Business Education are considered the picture changed somewhat. In English, as Table 17 indicates, 79 of the 177 regular high schools, or 44.6 percent, stated that articulation with postsecondary educational institutions was "Ineffective" or "No provisions"; 67, or 37.9 percent indicated that articulation with feeder schools was likewise "Ineffective" or "No provisions."

In Science, a "Very effective" or "Effective" ranking varied, as Table 18 shows, from less than one-fifth for articulation with occupations following school in regional high schools to more than nine-tenths for articulation within the Science departments of the same schools.

Many of the vocational-technical and trade and regional vocational technical schools did not respond to the question concerning the effectiveness of provisions for articulation in Business Education. It is assumed that all or most of the non-responding schools did not offer this subject. In the regular and regional schools approximately two-thirds reported that provisions for articulation with occupations following school was either "Very effective" or "Effective." These and other data will be found in Table 19.

Table 16

EFFECTIVENESS OF PROVISIONS FOR ARTICULATION OF ENTIRE PROGRAM OF THE SCHOOL

Type of School	Number of Schools	Provisions	Very Effective		Effective		Ineffective		No Provisions		Not Applicable		NR	
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Regular	177	With feeder schools	43	24.3	99	55.9	11	6.2	1	0.6	11	6.2	12	6.8
		Within a dept. of the school	85	48.0	77	43.5	1	0.6			2	1.1	12	6.8
		Within a dept. of the high schools in the district	11	6.2	33	18.6	4	2.3	9	5.1	83	46.9	37	20.9
		Among depts. in the school	43	24.3	111	62.7	6	3.4	4	2.3	2	1.1	11	6.2
		With postsecondary educational institutions	56	31.6	88	49.8	7	4.0	8	4.5	5	2.8	13	7.3
		With occupations following school	21	11.9	102	57.6	21	11.9	16	9.0	2	1.1	15	8.5
Regional	39	With feeder schools	4	10.3	18	46.2	10	25.5	1	2.6	2	5.1	4	10.3
		Within a dept. of the school	20	51.3	14	35.8			1	2.6			4	10.3
		Within a dept. of the high schools in the district	5	12.8	6	15.4	1	2.6			18	46.2	9	23.0
		Among depts. in the school	8	20.5	20	51.3	5	12.8	2	5.1			4	10.3
		With postsecondary educational institutions	4	10.3	25	64.0			5	12.8	1	2.6	4	10.3
		With occupations following school			20	51.3	5	12.8	9	23.0	1	2.6	4	10.3
Vocational-Technical and Trade	26	With feeder schools	3	11.5	13	50.0	3	11.5			2	7.7	5	19.3
		Within a dept. of the school	10	38.5	11	42.3					1	3.8	4	15.4
		Within a dept. of the high schools in the district			10	38.5			1	3.8	10	38.5	5	19.3
		Among depts. in the school	10	38.5	9	34.6	1	3.8			2	7.7	4	15.4
		With postsecondary educational institutions	1	3.8	12	46.1			6	23.1	2	7.7	5	19.3
		With occupations following school	15	57.7	5	19.3	1	3.8			1	3.8	4	15.4
Regional Vocational-Technical	9	With feeder schools	2	22.2	5	55.6							2	22.2
		Within a dept. of the school	5	55.6	2	22.2							2	22.2
		Within a dept. of the high schools in the district			3	33.3	1	11.1			3	33.3	2	22.2
		Among depts. in the school	5	55.6	2	22.2							2	22.2
		With postsecondary educational institutions			7	77.8							2	22.2
		With occupations following school	6	66.7	1	11.1							2	22.2

Table 17

EFFECTIVENESS OF PROVISIONS FOR ARTICULATION IN ENGLISH

Type of School	Number of Schools	Provisions for Articulation	Very Effective No.	Very Effective %	Effective No.	Effective %	Ineffective No.	Ineffective %	No Provisions No.	No Provisions %	Not Applicable No.	Not Applicable %	NR No.	NR %
Regular	177	With feeder schools	15	8.5	74	41.8	41	23.1	26	14.7	10	5.7	11	6.2
		Within a dept. of the school	90	50.9	68	38.4	4	2.3	3	1.7	2	1.0	10	5.7
		Within a dept. of the high schools in the district	8	4.5	28	15.8	18	10.2	24	13.6	82	46.3	17	9.6
		Among depts. in the school	18	10.2	91	51.4	35	19.8	20	11.3	2	1.1	11	6.2
		With postsecondary educational institutions	15	8.5	60	33.9	24	13.6	55	31.0	10	5.7	13	7.3
		With occupations following school	6	3.4	45	25.4	31	17.5	55	31.1	27	15.3	13	7.3
Regional	39	With feeder schools	3	7.7	11	28.2	12	30.8	9	23.1	2	5.1	2	5.1
		Within a dept. of the school	19	48.7	17	43.6	1	2.6					2	5.1
		Within a dept. of the high schools in the district	1	2.6	3	7.7	4	10.3	2	5.1	27	69.2	2	5.1
		Among depts. in the school	4	10.3	21	53.9	10	25.6	2	5.1			2	5.1
		With postsecondary educational institutions	2	5.1	9	23.1	12	30.8	12	30.8	2	5.1	2	5.1
		With occupations following school	1	2.6	3	7.7	10	25.6	17	43.6	6	15.4	2	5.1
Vocational-Technical and Trade	26	With feeder schools			8	30.8	5	19.2	8	30.8	3	11.5	2	7.7
		Within a dept. of the school	11	42.3	9	34.6	2	7.7			2	7.7	2	7.7
		Within a dept. of the high schools in the district	1	3.9	6	23.0	2	7.7	4	15.4	10	38.5	3	11.5
		Among depts. in the school	6	23.0	12	46.2	2	7.7	1	3.9			5	19.2
		With postsecondary educational institutions	2	7.7	6	23.1	2	7.7	9	34.6	4	15.4	3	11.5
		With occupations following school	11	42.3	8	30.8			5	19.2			2	7.7
Regional Vocational-Technical	9	With feeder schools			2	22.2			1	11.1	1	11.1	5	55.6
		Within a dept. of the school	2	22.2	2	22.2	1	11.1					4	44.5
		Within a dept. of the high schools in the district	1	11.1	1	11.1	1	11.1	1	11.1	1	11.1	4	44.5
		Among depts. in the school	1	11.1	2	22.2	1	11.1					5	55.6
		With postsecondary educational institutions			2	22.2			1	11.1	1	11.1	5	55.6
		With occupations following school			2	22.2			1	11.1	1	11.1	5	55.6

Table 18

EFFECTIVENESS OF PROVISIONS FOR ARTICULATION IN SCIENCE

			Number and Percentage of Schools											
			Very Effective		Effective		In-effective		No Provisions		Not Applicable		NR	
Type of School	Number of Schools	Provisions for Articulation	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Regular	177	With feeder schools	15	8.5	65	36.7	41	23.2	30	16.9	15	8.5	11	6.2
		Within a dept. of the school	81	45.8	76	42.9	5	2.8	4	2.3	3	1.7	8	4.5
		Within a dept. of the high schools in the district	9	5.1	34	19.2	8	4.5	26	14.7	91	51.4	9	5.1
		Among depts. in the school	16	9.0	99	56.0	25	14.1	23	13.0	5	2.8	9	5.1
		With postsecondary educational institutions	14	7.9	72	40.7	23	13.0	51	28.8	6	3.4	11	6.2
		With occupations following school	4	2.3	38	21.5	35	19.7	66	37.3	20	11.3	14	7.9
Regional	39	With feeder schools			12	30.8	14	35.8	7	18.0	1	2.6	5	12.8
		With a dept. of the school	19	48.7	18	46.2							2	5.1
		Within a dept. of the high schools in the district	3	7.7	3	7.7	1	2.6	1	2.6	28	71.7	3	7.7
		Among depts. in the school	2	5.1	22	56.5	8	20.5	5	12.8			2	5.1
		With postsecondary educational institutions			16	41.0	5	12.8	12	30.8	3	7.7	3	7.7
		With occupations following school			7	17.9	9	23.1	15	38.5	5	12.8	3	7.7
Vocational-Technical and Trade	26	With feeder schools	3	11.5	5	19.2	1	3.9	4	15.4	5	19.2	8	30.8
		Within a dept. of the school	7	26.9	7	26.9	2	7.7	1	3.9	2	7.7	7	26.9
		Within a dept. of the high schools in the district	1	3.9	6	23.0	2	7.7	3	11.5	6	23.1	8	30.8
		Among depts. in the school	7	26.9	7	26.9	1	3.9	2	7.7	2	7.7	7	26.9
		With postsecondary educational institutions	3	11.5	4	15.4	1	3.9	6	23.1	5	19.2	7	26.9
		With occupations following school	7	26.9	7	26.9	1	3.9	3	11.5	1	3.9	7	26.9
Regional Vocational-Technical	9	With feeder schools			3	33.3			2	22.2			4	44.5
		Within a dept. of the school	2	22.2	3	33.3							4	44.5
		Within a dept. of the high schools in the district			2	22.2			1	11.1	2	22.2	4	44.5
		Among depts. in the school	2	22.2	3	33.3							4	44.5
		With postsecondary educational institutions			4	44.4					1	11.1	4	44.5
		With occupations following school	2	22.2	3	33.3							4	44.5

Table 19

EFFECTIVENESS OF PROVISIONS FOR ARTICULATION IN BUSINESS EDUCATION

Type of School	Number of Schools	Provisions for Articulation	Very Effective No.	%	Effective No.	%	Ineffective No.	%	No Provisions No.	%	Not applicable No.	%	NR No.	%
Regular	177	With feeder schools	12	6.8	51	28.9	16	9.0	25	14.1	59	33.3	14	7.9
		Within a dept. of the school	93	52.5	61	34.5	2	1.1	4	2.3	5	2.8	12	6.8
		Within a dept. of the high schools in the district	12	6.8	34	19.2	3	1.7	18	10.2	93	52.5	17	9.6
		Among depts. in the school	43	24.3	81	45.8	18	10.2	16	9.0	5	2.8	14	7.9
		With postsecondary educational institutions	21	11.9	88	49.7	11	6.2	27	15.3	16	9.0	14	7.9
		With occupations following school	39	22.0	83	46.9	13	7.4	19	10.7	8	4.5	15	8.5
Regional	39	With feeder schools	1	2.6	7	17.9	4	10.3	8	20.5	15	38.4	4	10.3
		Within a dept. of the school	17	43.5	14	35.9			1	2.6	3	7.7	4	10.3
		Within a dept. of the high schools in the district			6	15.4	1	2.6	2	5.1	25	64.1	5	12.8
		Among depts. in the school	7	17.9	23	58.9	4	10.3	1	2.6			4	10.3
		With postsecondary educational institutions	4	10.3	17	43.5	4	10.3	7	17.9	3	7.7	4	10.3
		With occupations following school	5	12.8	20	51.2	4	10.3	6	15.4			4	10.3
Vocational-Technical and Trade	26	With feeder schools			2	7.7							24	92.3
		Within a dept. of the school	2	7.7									24	92.3
		Within a dept. of the high schools in the district			1	3.8			1	3.8			24	92.3
		Among depts. in the school	2	7.7									24	92.3
		With postsecondary educational institutions			1	3.8	1	3.8					24	92.3
		With occupations following school	2	7.7									24	92.3
Regional Vocational-Technical	9	With feeder schools											9	100.0
		Within a dept. of the school											9	100.0
		Within a dept. of the high schools in the district											9	100.0
		Among depts. in the school											9	100.0
		With postsecondary educational institutions											9	100.0
		With occupations following school											9	100.0

The procedures used by the 66 representative schools in evaluating the various aspects of instruction in the subject areas focus, in subject area content and student achievement on written tests; in student attitudes and motivation on teacher observations, student reactions, and discussion; and in instructional practices or strategies on teacher evaluations. In addition, but with less frequency, a wide variety of procedures were cited including, in subject area content, oral tests, College Entrance Examination Board tests, and conferences with students; in student achievement, special student projects, conferences with students, and laboratory work; in student attitudes and motivation, conferences with students and class participation; and in instructional practices or strategies, independent study.

Approximately half of the 251 schools reported they administered group intelligence, standardized achievement, and college entrance tests in one or more grades. About one-third administered multiple aptitude batteries and reading tests at some point in the high school program. A lesser number administered interest inventories, personality or adjustment inventories, or special aptitude tests.

Approximately half of the 251 schools indicated they "Seldom" administered individual intelligence, projective personality, speech, or special aptitude tests. More than half said they administered individual reading tests.

The procedures used in evaluation are, of course, related to the standards or expectations set by the teachers. Fifty percent of the 1,106 parent respondents indicated the standards were "About right," 22 percent said they were "Much too difficult" or "Somewhat difficult," and 21 percent indicated they were "Somewhat easy" or "Much too easy." Fifty-two percent of the student respondents said the standards were "About right," 38 percent reported they were "Much too difficult" or "Somewhat difficult," and nine percent indicated they were "Somewhat easy," or "Much too easy."

Sixty-three percent of the teachers characterized the academic standards of their schools as "Very Positive" or "Positive," 24 percent were "Neutral" (neither good nor poor), and 10 percent reported "Negative" or "Very Negative."

A substantial number of schools reported they were increasingly encouraging and teaching students to evaluate their own progress.

Table 20 includes the number of schools offering "new" subjects. BSCS Biology was, it will be noted, offered in 161 or nearly two-thirds of the schools, and PSSC Physics in 123 or about half of the schools.

A "Secondary School Survey," in 1969, by the Research and Development Division of the Massachusetts Department of Education reported that "Most schools use a credit system to label graduation requirements, rather than units. The majority of high schools require 80 credits, with 90 being the next most frequently reported number. Twenty credits are needed for promotion to senior high school from junior high school.

"High schools using a unit system most frequently reported 16 units required for graduation with 17 or 18 units mentioned less frequently. Junior high schools operating on the unit system usually require 3 or 4 units for promotion.

"Average course requirements for graduation in the Business, College Preparatory, and General programs are listed below:

	Business	College	General
Business Ed.	2		
English	3	3	3
Foreign Lang.		1	
Physical Ed.	3	3	3
Mathematics	1	2	1
Science	1	1	1
Social Studies	2	2	2"*

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*Secondary School Survey, Division of Research and Development, Massachusetts Department of Education, 1969

Table 20

NUMBER OF SCHOOLS OFFERING "NEW" SUBJECTS

"New" Subjects Offered	Type of High School				
	Regular (N = 177)	Regional (N = 39)	Voc.-Tech. & Trade (N = 26)	Regional Voc.-Tech. (N = 9)	Total (N = 251)
BSCS Biology	131	29	1		161
PSSC Physics	100	21	1	1	123
CHEM Study Chemistry	90	16			106
CBA Chemistry	28	6			34
SMSG Mathematics	64	15			79
UICSM Mathematics	8	4			12
ECSP Physical Science	30	9			39
SSSP Physical Science	10	2			12
Humanities	53	11	1		65
Other	59	13	2	3	77
No Response	15	5	22	5	47

The obstacles to change and improvement in one or more of 15 subject areas that were reported by 66 representative schools are listed in Table 21. Inadequate space was cited as an obstacle in 60 percent of the schools in Science, 50 percent in Physical Education, 45 percent in Social Studies, 44 percent in Art, 41 percent in English, 36 percent in Home Economics, 36 percent in Industrial Arts, 32 percent in Mathematics, and 27 percent in Music. The shortage of funds was mentioned as an obstacle by 35 percent of the schools in Social Studies, 32 percent in English, 29 percent in Art, 27 percent in Foreign Languages, and 26 percent in Business Education. The rigid and inflexible schedule was cited as an obstacle in 39 percent of the schools in Music, 23 percent in Home Economics, 20 percent in Physical Education, 17 percent in Mathematics, 15 percent in Science, 15 percent in Art, and 15 percent in Driver Education.

Table 22 shows that 179, or 71 percent, of the 251 high schools reported that a student could study in any one year a combination of seven subjects.

According to Dr. James B. Conant "...a widely comprehensive high school should as a minimum meet the following five criteria:

"1. Provide instruction in calculus;

"2. Provide instruction in a modern foreign language for four years;

"3. Arrange the schedule so that a student may study in any one year English, mathematics, science, a foreign language, social studies, physical education, art or music;

"4. Provide one or more advanced placement courses;

"5. Have enough English teachers so that 'the average pupil load' is 120 or less. (I stand by my recommendation in The American High School Today that the student load should be no more than 100, as I make clear later.)"*

More than one-third of the 251 high schools reported, as Table 23 indicates, that the time available to the principal and the school staff for effecting change and innovation in the improvement of the curriculum and instruction was "Inadequate." Nearly one-fifth reported the resources needed to effect improvements were "Inadequate." However, almost nine-tenths of the schools said the degree of responsibility which the principal and school staff had for effecting change was either "Very adequate" or "Adequate" and approximately the same number reported their authority was likewise "Very adequate" or "Adequate."

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*Conant, James Bryant, The Comprehensive High School, McGraw-Hill Book Company, 1967, pages 16-17.

Table 21

PERCENTAGE OF 66 REPRESENTATIVE SCHOOLS REPORTING OBSTACLES TO CHANGE AND IMPROVEMENT IN ONE OR MORE OF 15 SUBJECT AREAS

Obstacles	Art %	Bus. Ed. %	D. E. %	Dr. Ed. %	Eng. %	For. Lang. %	Health %	H. Ec. %	I.A. %	Math. %	Music %	P.E. %	Sci. %	Soc. St. %	T. & I. %
Space	44	45	8	21	41	21	12	36	36	32	27	50	60	45	11
Funds	29	26		21	32	27	6	9	12	21	15	12	23	35	17
Schedule	15	5	2	15	9	10	5	23	14	17	39	20	15	12	
No. of teachers	10	21		6	12	3	12	12	8	9	15	17	14	12	
Class size	5	5		2	21	17	5	3	9	15	2	11	11	9	
Time-teacher planning	5	2		8	18	3	3	11	5	15	3	2	11	23	
Teaching materials and equipment	5	6	2	5	6	10	5	3	12	5	5	9	11	11	5
Curriculum					9	5		8	5	5	5	3		9	3
Articulation	3	2			6	3	2	2	2	9	5	2	8	8	
Miscellaneous	14	21	10	5	44	30	6	18	17	44	20	23	12	38	11

Table 22

NUMBER AND PERCENTAGE OF HIGH SCHOOLS REPORTING THAT A STUDENT COULD STUDY IN ANY ONE YEAR A COMBINATION OF SEVEN SUBJECTS SUCH AS ENGLISH, MATHEMATICS, SCIENCE, A FOREIGN LANGUAGE, SOCIAL STUDIES, PHYSICAL EDUCATION, AND ART OR MUSIC

Type of School	Number of Schools	Yes		No		NR	
		No.	%	No.	%	No.	%
Regular	177	144	81.3	23	13.0	10	5.7
Regional	39	29	74.4	5	12.8	5	12.8
Vocational-Technical and Trade	25	4	16.0	19	76.0	2	8.0
Regional Vocational-Technical	9	2	22.2	6	66.7	1	11.1
Total	250	179	71.6	53	21.2	18	7.2

Table 23

DEGREE OF RESPONSIBILITY, AUTHORITY, RESOURCES, AND TIME WHICH THE PRINCIPAL AND SCHOOL STAFF REPORTED THEY HAVE TO EFFECT CHANGE AND INNOVATION IN THE IMPROVEMENT OF THE CURRICULUM AND INSTRUCTION

Type of School	Number of Schools	Percentage of Schools*															
		Responsibility				Authority				Resources				Time			
		1 %	2 %	3 %	NR %	1 %	2 %	3 %	NR %	1 %	2 %	3 %	NR %	1 %	2 %	3 %	NR %
Regular	177	58	30	4	8	39	45	8	8	12	61	18	9	10	43	38	9
Regional	39	72	15	3	10	49	36	5	10	31	41	18	10	13	36	36	15
Vocational-Technical and Trade	26	80	12	0	8	56	36	0	8	16	44	32	8	0	56	36	8
Regional Vocational-Technical	9	78	11	0	11	78	22	0	0	56	33	11	0	22	45	33	0

*
1 - Very adequate
2 - Adequate
3 - Inadequate
NR - No response

Guidance Services

Approximately two-thirds of the 251 high schools reported that a guidance director administers and coordinates the program of guidance services. The responsibilities are carried in one-tenth of the schools by the principal and in still a smaller number by individuals or groups such as the principal and the guidance director, a guidance committee, the assistant principal, or the principal and the assistant principal.

Table 24 shows that 15 schools had the equivalent of one full-time counselor per 199 or fewer students, 81 of the equivalent of one full-time counselor per 200-299 students, and 155 of the equivalent of one full-time counselor per 300 or more students.

Nearly all of the 251 schools reported that the following guidance functions and services were performed either very effectively or effectively: individual counseling, provision of educational and occupational information, teacher consultation, parent consultation, educational placement, and occupational placement. From two-thirds to four-fifths indicated the same effectiveness for small group counseling, test administration, involvement in curriculum development, referral to specialists, cooperation with community agencies, and follow-up studies. Less than one-fifth considered guidance classes as "Very effective" or "Effective."

Practices which would most improve the effectiveness of the guidance program are listed in Table 25. It will be noted that when practices which would have a "Significant positive effect" or a "Positive effect" are considered that 211 of the 251 schools cited "Decrease the number of students per counselor," 201 reported "Improved referral sources (e.g., specialists, community agencies)," 199 "Provide additional clerical help," 197 "Strengthen the teachers' role in guidance," and 179 "More extensive follow-up after graduation or withdrawal."

The referral sources available to the guidance programs in the 251 schools are reported in Table 26. A total of 204, or 81 percent, of the schools indicated that a psychologist was available, 166, or 66 percent, a psychiatrist, 158, or 63 percent, a speech therapist, 153, or 61 percent, a reading clinic, 148, or 59 percent, a social worker, and 107, or 43 percent, an adjustment counselor.

Perhaps the most significant observation concerning Table 27 is that more than half of the schools did not provide data related to multiple aptitude batteries, interest inventories, personality or adjustment inventories, locally devised tests or inventories, special aptitude tests, tests associated with contests, or employment test batteries. This may indicate that such tests were not used in many schools. Paper-and-pencil intelligence tests, standardized achievement tests, and tests for college entrance were administered in the largest number of schools.

Reading tests were administered "Very frequently" or "Frequently" to individual students in more than half of the schools, as Table 28 indicates; individual intelligence tests were administered "Very frequently" or "Frequently" in more than two-fifths of the schools.

Table 24

RATIO OF COUNSELORS TO STUDENTS

Ratio	Type of School				
	Regular	Regional	Voc.-Tech. & Trade	Regional Voc.-Tech.	Total
	No. of schools	No. of schools	No. of schools	No. of schools	No. of schools
The equivalent of 1 full-time counselor per 199 or fewer students	5	1	7	2	15
1:200 - 299	54	16	8	3	81
1:300 - 399	82	18	1	3	104
1:400 - 499	25	4	3		32
1:500 - 599	5				5
1:600 or more	1		2		3
No response	5		5	1	11
Total	177	39	26	9	251

Table 25

PRACTICES WHICH WOULD MOST IMPROVE EFFECTIVENESS OF THE GUIDANCE PROGRAM
(N = 251)

Practices	Significant Positive Effect	Positive Effect	Neither Positive nor a Negative Effect	Negative Effect	NR
	No. of Schools	No. of Schools	No. of Schools	No. of Schools	No. of Schools
Decrease the no. of students per counselor	151	60	23	2	15
Have only full-time counselors	82	22	44	5	98
Strengthen the teachers' role in guidance	39	158	32	7	15
Provide additional clerical help	102	97	34	3	15
Assign paraprofessionals for informal work with students	40	94	67	32	18
Allocate increased staff time to evening hours and Saturdays for closer home-school contacts	25	91	99	17	19
Increased use of testing	17	75	111	35	13
Improved records of student's performance	26	93	110	4	18
More extensive follow-up after graduation or withdrawal	46	133	58	2	12
Improved referral resources e.g., specialists, community agencies	90	111	32	2	16
Other	9	6	2	2	

Table 26

REFERRAL SOURCES AVAILABLE TO THE GUIDANCE PROGRAM

Type of School	No. of Schools	Psychologist	Psychiatrist	Social Worker	Adjustment Counselor	Speech Therapist	Reading Clinic	NR
		No.	No.	No.	No.	No.	No.	No.
Regular	177	149	121	108	80	120	112	7
Regional	39	31	25	23	9	21	20	3
Vocational-Technical and Trade	26	18	14	12	14	14	17	4
Regional Vocational-Technical	9	6	6	5	4	3	4	1
Total	251	204	166	148	107	158	153	15

Table 27

TESTS ADMINISTERED TO GROUPS OF STUDENTS

Tests	Grades									
	9		10		11		12		NR	
	No.	%	No.	%	No.	%	No.	%	No.	%
Paper-and-pencil intelligence tests	23	9.2	78	31.0	123	49.0	61	24.3	49	19.5
Multiple aptitude batteries	14	5.6	50	19.9	71	28.3	23	9.2	131	52.2
Reading tests	25	10.0	86	34.3	81	32.3	41	16.3	121	48.2
Standardized achievement tests	55	21.9	94	37.5	110	43.8	75	29.9	100	39.9
Interest inventories	28	11.2	35	13.9	47	18.7	52	20.7	153	61.0
Personality or adjustment inventories	7	2.8	3	1.2	5	2.0	5	2.0	242	96.4
Locally devised tests or inventories	15	6.0	12	4.8	14	5.6	13	5.2	232	92.4
Special aptitude tests	13	5.2	10	4.0	9	3.6	12	4.8	228	90.8
Tests associated with contests	42	16.7	2	0.8	3	1.2	23	9.2	200	79.7
Employment test batteries	62	24.7			2	0.8	11	4.4	184	73.3
Tests for scholarships	47	18.7			5	1.9	84	33.5	4	1.6
Tests for college entrance	142	56.6	2	0.8	22	8.8	138	55.0	101	40.2
Other	7	2.8	3	1.2	9	3.6	4	1.6		

Table 28

TESTS ADMINISTERED TO INDIVIDUAL STUDENTS
(N = 251)

Test	Frequency of Administration							
	Very Frequently		Frequently		Seldom		NR	
	No.	%	No.	%	No.	%	No.	%
Individual intelligence tests	11	4.4	98	39.0	117	46.6	25	10.0
Projective personality tests	1	0.4	10	4.0	140	55.8	100	39.8
Reading tests	32	12.8	102	40.6	72	28.7	45	17.9
Speech tests	5	2.0	22	8.7	137	54.6	87	34.7
Special aptitude tests, e.g., art, music, etc.	4	1.6	19	7.6	139	55.4	89	35.4

Student Withdrawals and Educational and Occupational Intentions

The percentage of students who enrolled at some time in the class of 1969 whom the school later classified as dropouts is shown in Table 29. A total of 163, or 64.9 percent, of the 251 schools indicated a dropout range of from 1-5 percent, 36, or 14.3 percent, a range of from 6-10 percent, 17, or 6.8 percent, a range of from 11-15 percent, and 23, or 9.2 percent, a dropout range of from 16-31 percent or more. Twelve, or 4.8 percent, of the schools did not respond.

The educational and occupational intentions of seniors in the 251 high schools are reported in Table 30. The median percentage ranges show that between 36-40 percent of those in regular high schools planned to attend a four-year college or university. Practically the same number, from 31-35 percent of the seniors in regional high schools, had the same intentions whereas only 6-10 percent of those in vocational-technical and trade high schools and 1-5 percent in regional vocational-technical high schools had such plans.

While the median percentage ranges indicated that 11-15 percent of the seniors in regular and regional high schools planned to work following graduation from high school, 41-45 percent of those in vocational-technical and trade and 56-60 percent of those in regional vocational-technical high schools said they had similar plans.

The Division of Research and Development, Massachusetts Department of Education, reported follow-up data as listed below.

"FOLLOW-UP OF 1967-68 HIGH SCHOOL GRADUATES

"4-Year College	32%
"2-Year College	15%
"Nurses Training	2%
"Other Post-Secondary	9%
"Military	7%
"Work	24%
"Other	11%"*

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*Facts About Education in Massachusetts, Division of Research and Development, Massachusetts Department of Education, February, 1970.

Table 29

PERCENTAGE OF STUDENTS IN CLASS OF 1969 CLASSIFIED AS DROPOUTS

Type of School	No. of Schools	No. of Schools in Percentage Ranges							
		1 - 5%	6 - 10%	11 - 15%	16 - 20%	21 - 25%	26 - 30%	31% or more	NR
Regular	177	122	22	13	9	2	2	1	6
Regional	39	24	7	2	2	1			3
Vocational-Technical and Trade	26	11	5	2	2	1		3	2
Regional Vocational-Technical	9	6	2						1
Total	251	163	36	17	13	4	2	4	12

Table 30

EDUCATIONAL AND OCCUPATIONAL INTENTIONS OF SENIORS

Type of School	No. of Schools	Intentions* and Median Percentage Ranges								
		1	2	3	4	5	6	7	8	9
Regular	177	36-40	11-15	11-15	1-5	6-10	1-5	6-10	11-15	1-5
Regional	39	31-35	11-15	11-15	6-10	6-10	1-5	1-5	11-15	1-5
Vocational-Technical and Trade	26	6-10	6-10	6-10	6-10	21-25	6-10	11-15	41-45	1-5
Regional Vocational-Technical	9	1-5	6-10	11-15	6-10	36-40	6-10	6-10	56-60	1-5

*1 - Attend 4-year college or university
2 - Attend junior or community college
3 - Attend other postsecondary school, e.g., business college or technical institute
4 - Continue education but undecided on type of school
5 - Stop formal education upon graduation
6 - Undecided about further education
7 - Military service
8 - Work
9 - Undecided

School Staff and Administration

Twenty-two of the 66 representative schools with enrollments of 500 or fewer had, as Table 31 indicates, an average full-time equivalency of 1.1 guidance counselors, 0.6 librarians, 0.1 audio-visual specialists, and so on.

Very few teachers, the 251 schools reported, were assigned to teach outside their major or minor field of specialization. Eighteen schools had one teacher in this classification, nine had two, two had three, two had four, and five had five.

The priorities in importance which principals assigned to various responsibilities are recorded in Table 32. While leadership in staff improvement was assigned the highest priority by 95 principals, the managerial responsibility was given this ranking by 92, and curriculum development by 84. These same responsibilities consumed most of the time of principals, as Table 33 indicates. Specifically, more than half of the 202 responding schools said that 31 percent or more of the principals' time was spent on managerial duties and 21 percent or more on leadership in staff improvement. Approximately half of the 201 schools responding to the item concerning percentage of time spent on curriculum development reported 21 percent or more.

The data in Table 34 show that the 185 schools which responded to the question concerning the percentage of time spent by the principals' administrative staff on various responsibilities that more than half reported 26 percent or more was given to managerial duties and 21 percent or more to student relations.

Table 35 shows that two-thirds of the schools reported the role of the principals and their administrative staffs in the preparation of the budgets for their schools was to "Plan, recommend and defend specific requests before final decisions are made."

The role of the principal and his administrative staff in the selection of certified professional personnel is presented in Table 36. Three-fourths of the schools reported the principal and his staff "Request staff allocation, review personnel records, interview applicants, and recommend for assignment the applicants considered qualified."

Table 31

AVERAGE FULL-TIME EQUIVALENCY OF STAFF IN SELECTED AREAS
(N = 66)

Enrollment	No. of Schools	Guidance Counselors	Librarians	A-V Specialists	Health Service	Special Education	Aides & Paraprof.		Secry. & Clerks	
							Full-time	Part-time	Full-time	Part-time
500 or fewer	22	1.1	0.6	0.1	0.5	0.2	0.4	0.3	2.1	0.4
501 - 1000	20	2.4	0.7	0.4	0.9	0.7	0.2	0.2	3.3	0.8
1001 - 1500	15	4.3	1.3	0.2	1.5	0.9	0.7	1.5	4.3	1.1
1501 - 2000	2	2.5	1.0	0.3	1.0	0.5		1.0	5.5	
2001 - 2500	5	7.5	2.8	0.7	1.2	1.6	0.4	0.8	8.6	1.4
2500 or more	2	7.5	2.8		2.0	1.5			5.5	7.0

Table 32

PRIORITIES IN IMPORTANCE WHICH PRINCIPALS ASSIGNED TO VARIOUS RESPONSIBILITIES
(N = 248)

Responsibility	Priorities in Importance*													
	1		2		3		4		5		6		NR	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Managerial	92	37.0	29	11.7	37	15.0	23	9.3	23	9.3	18	7.2	26	10.5
Curriculum Development	84	33.9	75	30.2	38	15.3	22	8.9	3	1.2			26	10.5
Leadership in Staff Improvement	95	38.3	62	25.0	38	15.3	15	6.1	7	2.8	4	1.6	27	10.9
Community Relations	16	6.5	25	10.1	25	10.1	35	14.1	55	22.1	66	26.6	26	10.5
Student Relations	45	18.1	54	21.8	61	24.6	47	19.0	12	4.8	3	1.2	26	10.5
Student Activities Program	10	4.0	25	10.1	25	10.1	37	15.0	62	25.0	60	24.1	29	11.7

*1 = Most important
6 = Least important

Table 33

PERCENTAGE OF TIME SPENT BY PRINCIPALS ON VARIOUS RESPONSIBILITIES
(N = 248)

Responsibility	Percentage of Time Spent by Principal																					
	1 - 5%		6 - 10%		11 - 15%		16 - 20%		21 - 25%		26 - 30%		31 - 35%		36 - 40%		41 - 45%		46 - 50%+		NR	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Managerial	3	1.2	9	3.6	22	8.9	13	5.2	21	8.5	17	6.9	33	13.3	8	3.2	19	7.7	57	23.0	46	18.5
Curriculum Development	4	1.6	15	6.0	51	20.6	30	12.0	45	18.1	22	8.9	16	6.5	5	2.0	9	3.6	4	1.6	47	19.0
Leadership in Staff Improvement	6	2.4	16	6.5	42	16.9	32	12.9	54	21.8	16	6.5	23	9.3	3	1.2	4	1.6	6	2.4	46	18.5
Community Relations	19	7.7	89	35.9	68	27.4	15	6.0	8	3.2	2	0.8									47	19.0
Student Relations	7	2.9	33	13.3	72	29.0	31	12.5	33	13.3	13	5.3	5	2.0	1	0.4	6	2.4	1	0.4	46	18.5
Student Activities Program	21	8.5	75	30.2	80	32.3	16	6.5	2	0.8	3	1.2					1	0.4			50	20.1

Table 34

PERCENTAGE OF TIME SPENT BY PRINCIPALS' ADMINISTRATIVE STAFF ON
VARIOUS RESPONSIBILITIES
(N = 248)

Responsibility	Percentage of Time Spent by Principals' Adm. Staff																					
	1 - 5%		6 - 10%		11 - 15%		16 - 20%		21 - 25%		26 - 30%		31 - 35%		36 - 40%		41 - 45%		46 - 50%+		NR	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Managerial	5	2.0	19	7.7	18	7.3	16	6.5	26	10.4	14	5.6	22	8.9	5	2.0	23	9.3	37	14.9	63	25.4
Curriculum Development	8	3.2	44	17.7	49	19.8	16	6.5	26	10.5	6	2.4	8	3.2	3	1.2	4	1.6	5	2.0	79	31.9
Leadership in Staff Improvement	8	3.2	50	20.1	54	21.8	19	7.7	30	12.1	4	1.6	7	2.9			3	1.2	2	0.8	71	28.6
Community Relations	21	8.5	77	31.0	58	23.4	9	3.6	6	2.4	1	0.4							1	0.4	75	30.3
Student Relations	5	2.0	13	5.2	37	14.9	22	8.9	32	12.9	10	4.0	16	6.5	2	0.8	17	6.9	31	12.5	63	25.4
Student Activities Program	11	4.4	52	21.0	51	20.6	14	5.6	22	8.9	7	2.9	14	5.6	2	0.8	3	1.2	4	1.6	68	27.4

Table 35

ROLE OF THE PRINCIPAL AND HIS ADMINISTRATIVE STAFF IN THE PREPARATION OF THE BUDGET

Type of School	Number of Schools	Prepared by Central Office		Make Recom.; Budget Prepared by Central Office		Plan, Recom. & Defend Specific Requests before Final Decisions		NR	
		No.	%	No.	%	No.	%	No.	
1	2	3		4		5		6	
Regular	177	15	8.4	58	32.8	113	63.8	3	1.7
Regional	39			10	25.6	31	79.5		
Vocational-Technical and Trade	26	2	7.7	6	23.1	18	69.2	4	15.4
Regional Vocational-Technical	9	2	22.2	2	22.2	5	55.6	2	22.2
Total*	251	19	7.6	76	30.2	167	66.5	9	3.6

*Since some respondents checked more than one item the number of schools in columns 3 - 5 sometimes exceeds the number in column 2 and the percentages are likewise over 100.

Table 36

ROLE OF THE PRINCIPAL AND HIS ADMINISTRATIVE STAFF IN THE SELECTION OF CERTIFIED PROFESSIONAL PERSONNEL

Type of School 1	No. of Schools 2	3*		4*		5*		6*		7*	
		No.	%	No.	%	No.	%	No.	%	No.	%
Regular	177	23	13.0	24	13.6	133	75.1	5	2.8	3	1.7
Regional	39			2	5.1	34	87.2	3	7.7		
Vocational-Technical and Trade	26	3	11.5	2	7.7	20	76.9	1	3.8	4	15.4
Regional Vocational-Technical	9	2	22.2	2	22.2	4	44.4	2	22.2	2	22.2
Total**	251	28	11.1	30	12.0	191	76.1	11	4.4	9	3.6

3 - Assignments are made by central office

4 - Request staff allocation and accept-reject among the candidates recommended by central office

5 - Request staff allocation, review personnel records, interview applicants, and recommend for assignment the applicants considered qualified

6 - Employ certified personnel without the direct assistance of the central office

7 - No response

Since some of the respondents checked more than one item the number of schools in columns 3-6 sometimes exceeds the number in column 2 and the percentages are likewise over 100.

More than one-third of the 251 schools reported that from one to ten members of the professional staff participated during the past year in "Summer employment related to teaching," "Curriculum workshop," "Individual research related to teaching," or "Writing for publication." Approximately one-fifth indicated that from 11-20 members participated in "University courses - evening or summer," "Summer employment related to teaching," "Curriculum workshop," and "Meetings of professional organizations." In addition, about two-fifths reported that from 21-30 members or more participated in "University courses--evenings or summer."

Of the 251 schools, 68 percent reported the employment of some teaching personnel during the summer months for professional work. More than one-third of the employed personnel were teaching in summer school. Smaller numbers were engaged in curriculum work, summer recreation work, and Federally-assisted programs.

The following standing committees were reported as presently operating: Curriculum Committees in 163 or 65 percent of the 251 schools; Principal's Advisory Committees in 172 or 69 percent of the schools; Faculty-Student Committees in 145 or 58 percent of the schools; Human Relations Committees in 19 or 8 percent of the schools; and Community Advisory Committees in 56 or 22 percent of the schools.

The median degree status of classroom teachers in Massachusetts' secondary schools was the Bachelor's plus 30 hours; for elementary and secondary non-classroom personnel, including administrators, supervisors, and guidance counselors, the median was the Master's degree.*

The median experience of classroom and non-classroom personnel in elementary and secondary schools was 3.3 years in the current school system and 5.4 years in public education.**

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*Facts About Education in Massachusetts, Division of Research and Development, Massachusetts Department of Education, February, 1970, page 2.

**Ibid., page 2.

Student Activities Program

Approximately 60 percent of the 251 schools reported that the principal or the principal and some other person or group administered and coordinated the activities program; nearly 50 percent said these functions were handled by an assistant principal and some other person or group. Only 15 percent assigned the same role to an activities director and less than 10 percent to an advisory council.

Table 37 shows that only two of the 251 schools indicated they did not have a faculty sponsor for each activity.

A considerable number of schools have persons with activity assignments who are not members of the professional staff of the school or the school system. The largest numbers follow: 94 schools have one or more persons in boys' interscholastics who are "professional staff members in system but not in this school," 43 schools have one or more in girls' interscholastics, and 40 schools reported one or more in music. Thirty-one schools indicated they have one or more persons who are not professional staff members in the system, in boys' interscholastics, 12 in girls' interscholastics, and eight in music.

The data in Table 38 indicate that three-fourths of the schools reported "Very extensive" or "Extensive" participation of students, faculty, and the administration in cooperatively developing policies and in effecting satisfactory practices in school government. Exceptions were in the "Protection and care of school property," "Community service activities," and "Interschool relations" in which, as is shown on the table, about half reported "Very extensive" or "Extensive" participation.

A total of 134, or 53.4 percent of the 251 schools reported, as Table 39 indicates, that from 61-100 percent of the student body participated in at least one activity. Seven schools, or 2.7 percent, indicated that 20 percent or less of the students participated in at least one activity and 85 schools, or 33.9 percent, said that from 21-60 percent participated.

From half to more than three-fourths of the schools stated that activities were funded in an "adequate" manner. Boys' interscholastic activities were funded adequately in the largest number of schools, 204, 204 or 81.3 percent, as Table 41 shows.

Table 37

FACULTY SPONSORSHIP OF EACH ACTIVITY

Type of School	Number of Schools	At Least One Faculty Sponsor for Each Activity					
		Yes		No		NR	
		No.	%	No.	%	No.	%
Regular	177	172	97.2	2	1.1	3	1.7
Regional	39	36	92.3			3	7.7
Vocational-Technical and Trade	26	13	50.0			13	50.0
Regional Vocational-Technical	9	8	88.9			1	11.1
Total	251	229	91.2	2	0.8	20	8.0

Table 38

PARTICIPATION OF STUDENTS, FACULTY, AND ADMINISTRATION IN COOPERATIVELY DEVELOPING POLICIES AND IN EFFECTING SATISFACTORY PRACTICES IN SCHOOL GOVERNMENT

(N = 251)

Phases of School Government	Extent of Participation - Policies								Extent of Participation - Practices							
	Very Extensive		Extensive		Not Extensive		NR		Very Extensive		Extensive		Not Extensive		NR	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Functioning of student council	91	36.3	108	43.0	34	13.5	18	7.2	77	30.7	112	44.6	38	15.1	24	9.6
Student behavior and dress	97	38.6	106	42.2	31	12.4	17	6.8	76	30.3	111	44.2	43	17.1	21	8.4
Protection and care of school property	53	21.1	115	45.8	63	25.1	20	8.0	35	13.9	111	44.2	81	32.3	24	9.6
Student morale and school spirit	67	26.7	137	54.6	30	11.9	17	6.8	54	21.5	146	58.2	28	11.1	23	9.2
General welfare of student body	90	35.8	110	43.8	31	12.4	20	8.0	75	29.9	123	49.0	28	11.1	25	10.0
School social activities	77	30.7	114	45.4	41	16.3	19	7.6	72	28.7	110	43.8	45	17.9	24	9.6
Community services activities	34	13.5	84	33.5	107	42.6	26	10.4	29	11.5	91	36.3	103	41.0	28	11.1
Interschool relations	39	15.5	95	37.9	82	32.7	35	13.9	29	11.5	100	39.8	84	33.5	38	15.1

Table 39

PERCENTAGE OF STUDENT BODY WHO PARTICIPATED IN AT LEAST ONE ACTIVITY

Type of School	Number of Schools	Percentage of Student Body											
		0 - 20%		21 - 40%		41 - 60%		61 - 80%		81 - 100%		NR	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Regular	177	1	0.6	16	9.0	44	24.9	66	37.3	39	22.0	11	6.2
Regional	39			5	12.8	10	25.6	12	30.8	11	28.2	1	2.6
Vocational-Technical & Trade	26	5	19.2	3	11.5	3	11.5	1	3.9	3	11.5	11	42.4
Regional Vocational-Technical	9	1	11.1	1	11.1	3	33.4	1	11.1	1	11.1	2	22.2
Total	251	7	2.7	25	10.0	60	23.9	80	31.9	54	21.5	25	10.0

Approximately one-third of the 251 high schools reported they had experienced some "...form of student protest"; nearly two-thirds had not experienced such protest. The most common cause for student protest was the desire to abolish a dress code. Other causes cited related to such items as alleged racism, the desire to participate more extensively than they were in decision-making, and the withdrawal of specific privileges such as those pertaining to the use of the library.

Fourteen percent of the schools and/or school systems indicated they have "...written policies or guidelines for dealing with student demonstrations or other forms of student protest"; 80 percent said they do not have such policies or guidelines. Six percent of the schools did not respond to this item in the questionnaire.

Numerous deterrents to student participation in activities were reported by the 251 schools. They are listed in Table 40. The major deterrent was "Work" which was mentioned by 174, or 69.3 percent of the schools. "Limited physical facilities" was indicated by 132, or 52.6 percent, "Lack of student interest" by 111, or 44.2 percent, and "Bus schedules" by 105, or 41.8 percent. In most of the schools, a number of deterrents were indicated which means that the total number of schools shown above and on Table 40 exceeds 251 and that the percentages likewise exceed 100.

Table 40

DETERRENTS TO STUDENT PARTICIPATION IN ACTIVITIES

Deterrent	Type of School								Total (N = 251)	
	Regular (N = 177)		Regional (N = 39)		Voc.-Tech. & Trade (N = 26)		Reg. Voc.-Tech. (N = 9)			
	No.	%	No.	%	No.	%	No.	%	No.	%
Cost to student	6	3.4	3	7.7					9	3.6
Lack of student interest	84	47.5	20	51.3	4	15.4	3	33.3	111	44.2
Limited physical facilities	101	57.0	25	64.1	6	23.1			132	52.6
Lack of sufficient qualified and interested sponsors	45	25.4	11	28.2	3	11.5	2	22.2	61	24.3
Financial support	42	23.7	4	10.3	3	11.5	1	11.1	50	19.9
Eligibility requirements	15	8.5	2	5.1	1	3.9			18	7.2
Bus schedules	72	40.7	19	48.7	9	34.6	5	55.6	105	41.8
Work	128	72.3	26	66.7	13	50.0	7	77.8	174	69.3
Early dismissal due to overcrowding	22	12.4	4	10.3	1	3.8			27	10.8

Table 41

ADEQUACY OF FUNDING FOR ACTIVITIES

Activity	Adequate		In-adequate		NR	
	No.	%	No.	%	No.	%
Publications	158	62.9	70	27.9	23	9.2
Music	186	74.0	33	13.0	32	13.0
Dramatics and Speech	153	61.0	59	23.5	39	15.5
Boys' Interscholastic	204	81.3	22	8.8	25	9.9
Girls' Interscholastic	186	74.1	24	9.6	41	16.3
Boys' Intramural	143	57.0	49	19.5	59	23.5
Girls' Intramural	140	55.8	50	19.9	61	24.3
Clubs	153	61.0	63	25.0	35	14.0
Service Organizations	125	49.8	48	19.1	78	31.1
Other	24	9.6	7	2.8	220	87.6

Educational Media Services - Library and Audio-Visual

Expenditures per pupil for educational media materials and equipment were reviewed for 66 representative schools. These are reported in Table 42. Sixteen of the 22 schools with enrollments of 500 or fewer indicated the average expenditure per pupil for materials was $9.87; 15 of the 22 schools said the average for equipment was $9.76. Twelve of the 15 schools with enrollments of 1001-1500 reported the average expenditure per pupil for materials was $4.49; 13 of the 15 indicated the average for equipment was $2.49.

The data in Table 43 indicate serious shortages in educational media personnel. An "Inadequate" or "Not available" assessment was reported by nearly half of the 251 schools for an educational media supervisor or director, by about one-third of the schools for the librarian(s), by more than half of the schools for library clerk(s), audio-visual clerk(s), and audio-visual technician(s).

Table 44 indicates that more than three-fourths of the 251 schools reported the degree to which teachers were involved in the selection of library and audio-visual materials and equipment was "Very adequate" or "Adequate."

Table 42

EXPENDITURES PER PUPIL FOR EDUCATIONAL MEDIA MATERIALS AND EQUIPMENT, 1968-69

Enrollment	No. of Schools	No. of Schools Reporting Expenditures for Materials	Average Expenditure Per Pupil in Reporting Schools for Materials	No. of Schools Reporting Expenditures for Equipment	Average Expenditure Per Pupil in Reporting Schools for Equipment
500 or fewer	22	16	$9.87	15	$9.76
501 - 1000	20	17	7.46	17	2.87
1001 - 1500	15	12	4.49	13	2.49
1501 or more	9	9	7.03	7	5.57

Table 43

ADEQUACY OF EDUCATIONAL MEDIA STAFF TO SERVE THE NEEDS OF STUDENTS AND TEACHERS
(N = 251)

Staff	Very Adequate		Adequate		In-adequate		Not Available		NR	
	No.	%	No.	%	No.	%	No.	%	No.	%
Educational media (supervisor or director)	30	12.0	64	25.5	41	16.3	79	31.5	37	14.7
Librarian(s)	48	19.1	101	40.2	75	29.9	7	2.8	20	8.0
Library clerk(s)	19	7.6	50	19.9	52	20.7	95	37.0	35	13.9
Audio-visual clerk(s)	4	1.6	21	8.4	28	11.1	152	60.6	46	18.3
Audio-visual technician(s)	4	1.6	31	12.4	38	15.1	130	51.8	48	19.1
Student aides	44	17.5	101	40.2	59	23.5	24	9.6	23	9.2

Table 44

DEGREE TO WHICH TEACHERS WERE INVOLVED IN THE SELECTION OF LIBRARY AND AUDIO-VISUAL MATERIALS AND EQUIPMENT

Type of School	No. of Schools		Very Adequate		Adequate		In-adequate		NR	
			No.	%	No.	%	No.	%	No.	%
Regular	177		39	22.0	107	60.5	24	13.6	7	3.9
Regional	39		18	47.4	17	44.7	1	2.6	3	5.3
Vocational Technical & Trade	26	Library	4	15.4	9	34.6	2	7.7	11	42.3
Regional Vocational-Technical	9		5	55.6	2	22.2			2	22.2
Total	251		66	26.3	135	53.8	27	10.7	23	9.2
Regular	177		38	21.5	105	59.3	21	11.9	13	7.3
Regional	39	Audio-	19	48.7	16	41.0	2	5.1	2	5.2
Vocational Technical & Trade	26	Visual	3	11.5	9	34.6	4	15.4	10	38.5
Regional Vocational-Technical	9		5	55.6	2	22.2			2	22.2
Total	251		65	25.9	132	52.6	27	10.8	27	10.7

The educational media materials available in the 251 schools are reported in Table 45. A "Very adequate" or "Adequate" assessment was given to the availability of books, magazines, newspapers, and filmstrips by approximately two-thirds of the schools. An "Inadequate" or "Not available" ranking was indicated by about half or more of the schools for the availability of pamphlets, slides, tape and disc recordings, graphic materials, microfilm, and programed instructional materials.

The extent to which books, magazines, newspapers, and filmstrips served student and faculty needs was reported as "Very adequate" or "Adequate" by about two-thirds of the schools. These data are shown on Table 46. From one-half to nearly two-thirds of the schools responded "Inadequate" or "Not available" to the extent to which slides, tape and disc recordings, graphic materials, microfilm, and programed instructional materials served student and faculty needs.

Table 45

AVAILABILITY OF VARIOUS EDUCATIONAL MEDIA MATERIALS
(N = 251)

Materials	Very Adequate		Adequate		In-adequate		Not Available		NR	
	No.	%	No.	%	No.	%	No.	%	No.	%
Books	43	17.1	106	42.2	75	29.9	4	1.6	23	9.2
Magazines	54	21.5	127	50.6	45	17.9	4	1.6	21	8.4
Newspapers	46	18.3	110	43.8	54	21.5	19	7.6	22	8.8
Pamphlets	19	7.6	85	33.9	112	44.6	12	4.8	23	9.1
Films	16	6.4	96	38.2	71	28.3	39	15.5	29	11.6
Filmstrips	30	11.9	120	47.8	63	25.1	12	4.8	26	10.4
Slides	10	4.0	65	25.9	95	37.8	53	21.1	28	11.2
Tape and disc recordings	9	3.6	88	35.0	103	41.0	24	9.6	27	10.8
Graphic materials	6	2.4	61	24.3	85	33.9	59	23.5	40	15.9
Globes	22	8.8	97	38.7	46	18.3	45	17.9	41	16.3
Maps	36	14.3	102	40.7	49	19.5	23	9.2	41	16.3
Microfilm	7	2.8	23	9.2	37	14.7	129	51.4	55	21.9
Transparencies	20	8.0	87	34.7	78	31.1	33	13.1	33	13.1
Programed instructional materials	4	1.6	31	12.4	55	21.9	115	45.8	46	18.3

Table 46

EXTENT EDUCATIONAL MEDIA MATERIALS SERVE STUDENT AND FACULTY NEEDS
(N = 251)

Materials	Very Adequate		Adequate		In-adequate		Not Available		NR	
	No.	%	No.	%	No.	%	No.	%	No.	%
Books	38	15.1	112	44.6	75	29.9	3	1.2	23	9.2
Magazines	45	17.9	130	51.8	50	19.9	3	1.2	23	9.2
Newspapers	45	17.9	108	43.0	54	21.5	18	7.2	26	10.4
Pamphlets	20	8.0	83	33.1	111	44.2	10	4.0	27	10.7
Films	16	6.4	98	39.0	74	29.5	32	12.7	31	12.4
Filmstrips	33	13.1	115	45.8	63	25.1	12	4.8	28	11.2
Slides	9	3.6	71	28.3	96	38.2	45	17.9	30	12.0
Tape and disc recordings	10	4.0	88	35.1	105	41.8	19	7.6	29	11.5
Graphic materials	6	2.4	62	24.7	84	33.5	58	23.1	41	16.3
Globes	25	10.0	94	37.5	46	18.3	42	16.7	44	17.5
Maps	37	14.8	100	39.8	48	19.1	24	9.6	42	16.7
Microfilm	7	2.8	24	9.6	41	16.3	120	47.8	59	23.5
Transparencies	21	8.4	84	33.5	78	31.1	32	12.7	36	14.3
Programed instructional materials	6	2.4	34	13.6	55	21.9	108	43.0	48	19.1

School Physical Facilities

The data in Table 47 indicate that more than half of the 251 schools reported that facilities to provide for present programs for large group instruction, seminar rooms, learning resource centers, conference rooms, teacher offices, teacher work spaces, and storage were "Inadequate" or "Severely inadequate." Between one-third and one-half of the schools indicated that facilities for present programs for shops, laboratories, Music, Art, Health, Physical Education, auditorium, and administrative offices were likewise "Inadequate" or "Severely inadequate."

One-third or more of the 251 schools stated, as Table 48 indicates, that all specialized facilities were "Inadequate" or "Severely inadequate" to provide for new programs and services. One-half or more of the schools rated the facilities for shops, laboratories, Art, Physical Education, large group instruction, seminar rooms, learning resource centers, conference rooms, administrative offices, teacher offices, teacher work spaces, guidance services, and storage to provide for new programs and services as "Inadequate" or "Severely inadequate."

Eighty, or 31.9 percent, of the schools reported, as Table 49 indicates, that they had been "Constrained to a great degree" ...during the past five years in designing innovative educational programs due to the inflexibility and/or inadequacy of physical facilities." A total of 170, or 67.8 percent said they had been "Constrained to a great degree" or "Constrained to a moderate degree."

Table 47

ADEQUACY OF SPECIALIZED FACILITIES TO PROVIDE FOR PRESENT PROGRAMS AND SERVICES
(N = 251)

Specialized Facilities	More than Adequate		Adequate		In-adequate		Severely inadequate		NR	
	No.	%	No.	%	No.	%	No.	%	No.	%
Shops	29	11.5	98	39.0	77	30.7	24	9.6	23	9.2
Laboratories	29	11.5	101	40.2	77	30.7	20	8.0	24	9.6
Music	32	12.8	95	37.9	51	20.3	33	13.1	40	15.9
Art	16	6.4	96	38.3	63	25.1	35	13.9	41	16.3
Health	28	11.2	95	37.8	53	21.1	32	12.8	43	17.1
Physical Education	29	11.5	92	36.7	66	26.3	44	17.5	20	8.0
Auditorium	29	11.5	102	40.7	52	20.7	43	17.1	25	10.0
Cafeteria	26	10.3	124	49.4	53	21.1	25	10.0	23	9.2
Large group instruction	17	6.8	71	28.3	73	29.1	63	25.1	27	10.7
Seminar rooms	11	4.4	37	14.7	83	33.1	90	35.9	30	11.9
Learning resource centers	13	5.2	50	19.9	85	33.9	70	27.9	33	13.1
Conference rooms	11	4.4	49	19.5	82	32.7	88	35.0	21	8.4
Administrative offices	24	9.5	107	42.6	82	32.7	21	8.4	17	6.8
Teacher offices	7	2.8	45	17.9	75	30.0	103	41.0	21	8.3
Teacher work spaces	10	4.0	69	27.5	81	32.2	74	29.5	17	6.8
Medical services	33	13.1	138	55.0	46	18.3	13	5.2	21	8.4
Guidance services	26	10.3	128	51.0	63	25.1	19	7.6	15	6.0
Storage	9	3.6	60	23.9	85	33.8	75	30.0	22	8.7

Table 48

ADEQUACY OF SPECIALIZED FACILITIES TO PROVIDE FOR NEW PROGRAMS AND SERVICES
(N = 251)

Specialized Facilities	More than Adequate		Adequate		In-adequate		Severely Inadequate		NR	
	No.	%	No.	%	No.	%	No.	%	No.	%
Shops	12	4.8	40	15.9	68	27.1	74	29.5	57	22.7
Laboratories	16	6.4	48	19.1	79	31.5	50	19.9	58	23.1
Music	21	8.4	59	23.5	59	23.5	45	17.9	67	26.7
Art	10	4.0	48	19.1	66	26.3	59	23.5	68	27.1
Health	19	7.6	66	26.3	46	18.3	47	18.7	73	29.1
Physical Education	20	8.0	38	15.1	73	29.1	66	26.3	54	21.5
Auditorium	20	8.0	63	25.1	54	21.5	56	22.3	58	23.1
Cafeteria	21	8.4	67	26.7	64	25.5	43	17.1	56	22.3
Large group instruction	15	6.0	47	18.7	48	19.1	82	32.7	59	23.5
Seminar rooms	11	4.4	19	7.6	64	25.5	97	38.6	60	23.9
Learning resource centers	14	5.6	21	8.4	64	25.5	93	37.0	59	23.5
Conference rooms	11	4.4	32	12.8	52	20.7	103	41.0	53	21.1
Administrative offices	16	6.4	55	21.9	77	30.7	52	20.7	51	20.3
Teacher offices	8	3.2	24	9.6	67	26.7	95	37.8	57	22.7
Teacher work spaces	8	3.2	45	17.9	56	22.3	89	35.5	53	21.1
Medical services	27	10.8	87	34.7	53	21.1	29	11.5	55	21.9
Guidance services	16	6.4	57	22.7	77	30.7	48	19.1	53	21.1
Storage	7	2.8	38	15.1	56	22.3	92	36.7	58	23.1

Table 49

EXTENT OF CONSTRAINT IN DESIGNING INNOVATIVE EDUCATIONAL PROGRAMS DUE TO INFLEXIBILITY AND/OR INADEQUACY OF PHYSICAL FACILITIES

Type of School	Number of Schools	Constrained to a Great Degree		Constrained to a Moderate Degree		Constrained Little, if at all		NR	
		No.	%	No.	%	No.	%	No.	%
Regular	177	61	34.5	64	36.2	27	15.2	25	14.1
Regional	39	11	29.0	14	36.8	9	23.7	5	10.5
Vocational-Technical and Trade	26	7	26.9	9	34.6	4	15.4	6	23.1
Regional Vocational-Technical	9	1	11.1	3	33.3	3	33.3	2	22.3
Total	251	80	31.9	90	35.9	43	17.1	38	15.1

School-Community Relations

Table 50 indicates that lay people from the community were involved "Very frequently or frequently" or "Sometimes" in educational and occupational information conferences in more than three-fourths of the schools. They were "Never or almost never" involved in from one-third to one-half of the schools in over-all educational planning, as advisers for special instructional programs, in planning and/or supervising supplementary educational experiences for students, in the over-all evaluation of the school's program, or in planning and/or supervising aspects of the student activity program.

School facilities were used quite extensively by civic and community organizations. The data in Table 51 show that such organizations used the facilities "About once a month" or "Several times a month" in two-thirds of the schools.

More than three-fourths of the schools reported that local and or general newspapers, the student newspaper and/or annual, staff and/or student appearances before community groups, school performances, school open houses, and staff affiliations with civic and community organizations were "Used with significant positive effect" or "Used with moderate positive effect" as communication media. These and other data are presented in Table 52.

The organizations sponsored by the schools in their programs of community-school-parent relations are reported in Table 53. Eighty-seven, or 34.7 percent, of the schools sponsored "Special advisory committees," 73, or 29.0 percent, had a "Parent-Teacher Association," and 55, or 21.9 percent, sponsored a "Lay Advisory Council."

Table 50

EXTENT LAY PEOPLE WERE INVOLVED IN PROGRAM CONDUCTED BY THE SCHOOL
(N = 251)

Program	Very Frequently or Frequent		Sometimes		Never or Almost Never		NR	
	No.	%	No.	%	No.	%	No.	%
Over-all educational planning	25	10.0	118	47.0	96	38.2	12	4.8
Advisers for special instructional programs	35	13.9	123	49.0	80	31.9	13	5.2
Planning and/or supervising supplementary educational experiences for students	16	6.4	130	51.8	89	35.4	16	6.4
Over-all evaluation of this school's program	25	10.0	85	33.9	129	51.3	12	4.8
Planning and/or supervising aspects of the student activity program	15	6.0	106	42.2	117	46.6	13	5.2
Educational and occupational information conferences	58	23.1	133	53.0	46	18.3	14	5.6

Table 51

EXTENT TO WHICH CIVIC AND COMMUNITY ORGANIZATIONS USE SCHOOL FACILITIES
(N = 251)

Type of School	Number of Schools	Not at All		Several Times a Year		About Once a Month		Several Times a Month		NR	
		No.	%	No.	%	No.	%	No.	%	No.	%
Regular	177	2	1.1	39	22.0	17	9.6	116	65.6	3	1.7
Regional	39			15	38.5	7	17.9	16	41.0	1	2.6
Vocational-Technical and Trade	26	8	30.9	7	26.9	3	11.5	5	19.2	3	11.5
Regional Vocational-Technical	9			2	22.3	1	11.1	3	33.3	3	33.3
Total	251	10	4.0	63	25.1	28	11.1	140	55.8	10	4.0

Table 52

AVAILABILITY AND EFFECTIVENESS OF COMMUNICATION MEDIA
(N = 251)

Media	Used with Significant Positive Effect		Used with Moderate Positive Effect		Used with Probable Negative Effect		Available but not Currently Used		Un-available		NR	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Local radio	27	10.7	77	30.7	6	2.4	69	27.5	59	23.5	13	5.2
Local television	9	3.6	38	15.1	6	2.4	48	19.1	133	53.0	17	6.8
Local and/or general newspapers	86	34.2	144	57.4	6	2.4	4	1.6	1	0.4	10	4.0
Publications prepared by school personnel	57	22.7	120	47.8	3	1.2	10	4.0	4[illegible]	18.7	14	5.6
Student newspaper and/or annual	73	29.0	135	53.8	4	1.6	8	3.2	13	5.2	18	7.2
Staff and/or student appearances before community groups	61	24.3	143	57.0	3	1.2	28	11.1	7	2.8	9	3.6
School performances	118	47.0	106	42.2	2	0.8	1	0.4	13	5.2	11	4.4
School open houses	104	41.4	123	49.0	5	2.0	4	1.6	5	2.0	10	4.0
Staff affiliations with civic and community organizations	54	21.5	137	54.6	4	1.6	17	6.8	12	4.8	27	10.7

Table 53

ORGANIZATIONS SPONSORED BY SCHOOLS IN PROGRAMS OF COMMUNITY-SCHOOL-PARENT RELATIONS
(N = 251)

Organizations	No. of Schools	Percent of Schools
Parent-Teacher Association	73	29.0
Parent Teacher Student Council	25	10.0
Lay Advisory Council	55	21.9
Special advisory committees	87	34.7
Mothers' Club	21	8.4
Dads' Club	20	8.0
No Response	69	27.5

Financial Resources

Financial constraints "Seriously" affected the provision of building facilities in more than one-third of the schools. As Table 54 indicates, such constraints "Seriously" or "Moderately" affected more than one-half of the schools in the provision of building facilities, in non-professional staffing, and in the initiation of new programs and services.

Table 54

EXTENT FINANCIAL CONSTRAINTS WERE AFFECTING VARIOUS AREAS OF THE SCHOOLS' OPERATION
(N = 251)

Areas of Schools' Operation	Seriously		Moderately		Little		NR	
	No.	%	No.	%	No.	%	No.	%
Building facilities	95	37.8	63	25.1	73	29.1	20	8.0
Professional staffing	12	4.8	85	33.8	135	53.8	19	7.6
Non-professional staffing	28	11.2	102	40.6	99	39.4	22	8.8
Instructional equipment and supplies	15	6.0	85	33.8	132	52.6	19	7.6
New programs and services	53	21.1	109	43.4	66	26.3	23	9.2
Other	6	2.4	3	1.2	6	2.4		

Chapter 3

PARENTS, ADMINISTRATORS, TEACHERS, AND STUDENTS VIEW THEIR SCHOOLS

Parents, administrators, teachers, and students like their schools. They would, however, make numerous changes in them if additional resources were available. Increased resources focus, for the most part, upon funds, space, and personnel. The provision of these and other resources would, in turn, support the implementation of increased comprehensiveness, quality, and relevance.

Data which support these conclusions were gathered through questionnaires from 1106 parents, 27 superintendents, 33 principals, 1821 teachers, and 2748 students in 33 representative schools. In addition, interviews were held with all of the administrators and with selected students and teachers. Moreover, teams of consultants observed the class and extra-class activities in each of the 33 schools.

Parents' Views

The views of parents concerning the schools their children attend are presented in Tables 55, 56, and 57. Some of the most important views follow:

1. Seventy percent characterized the quality of education offered as either "Excellent" or "Good." It seems significant, however, that 23 percent characterized the quality as "Average," 3 percent as "Below average," and 1 percent as "Poor."

2. Ninety-two percent reported they "Very frequently" or "Frequently" discussed with their children such matters as selecting courses, going to college, and getting a job.

3. Ninety percent indicated they would welcome additional information about their high schools.

4. Two-thirds of the parents expressed particular interest in obtaining additional information concerning the counselling and guidance program, half in the major problems of the school such as overcrowding, and staffing, and nearly half in the courses offered, course content, and recent changes and innovations in instructional and organizational practices.

5. Almost two-thirds said they "Very frequently or frequently" obtained information about their schools from local and/or general newspapers. At the other extreme, only four percent obtained such information "Very frequently or frequently" from staff and/or student appearances before community groups.

6. Parents and students differed with regard to the feelings of the students about going to school each day. Forty-nine percent of the parents said that in their judgment their children "Usually looks forward to it with enthusiasm" whereas only 22 percent of the children concurred.

7. Approximately two-thirds of the parents reported they have "Never or almost never" been involved in the program conducted by the school. More than one-third indicated they would be willing to participate "Sometimes."

8. Sixty-one percent thought that "More emphasis" should be given by the high school to preparation for a job whereas only 31 percent indicated that "More emphasis" should be given to preparation for college.

9. Fifty percent of the parents and 52 percent of the students agreed the standards (expectations) set by the teachers were "About right;" however, 21 percent of the parents and 9 percent of the students indicated the standards were either "Somewhat easy" or "Much too easy."

10. More than one-fourth of the parents felt their children "...would like to be able to talk to someone more often than she can now" at school concerning "...such matters as selecting courses, going to college, getting a job." Almost one-third of the students agreed.

11. Fifty-three percent of the parents believed their children need "...more attention from the school in the development of self-understanding, self-responsibility, decision-making, and values." This relates to the indication by more than 90 percent of the parents that the following purposes of the high school were either "Very important" or "Important": "Preparation for responsible participating citizenship," "Development of acceptable competencies, skills, understandings and/or appreciation in "Moral and ethical behavior" and in "Human relations."

12. One-third of the parents characterized the discipline in the school as "Not strict enough" but three-fifths indicated it was "About right."

13. More than half of the parents cited the courses and/or curriculum as a strength of the schools though two-fifths indicated they were a weakness. The strengths focused on such matters as

"Good preparation for college," "Good preparation for employment," "Much individualized help," "Diversity of curriculum." The weaknesses focused on "Poor courses for non-college bound," "Lack of depth in courses," "Overemphasis on marks," "Rigid curriculum," "Emphasis is on above and below average students with the average left to 'sink or swim'."

14. Considerable attention was given by parents and students to administrative rules and regulations. This attention is not unique to Massachusetts; it is true throughout the country. More than one-fourth of the parents in this Study cited administrative rules and regulations as a strength of the schools and mentioned "Well-run," "Well-organized," "Freedom with responsibility," "Progressive but not free-wheeling," "Good school spirit." At the same time, more than one-fourth indicated the rules and regulations were a weakness and referred to "Lack of discipline," "Poor school spirit," "Excessive regimentation." More than half of the students said that "There is little freedom, much regimentation;" and again, more than half stated that administrative rules and regulations were the main weakness of their schools and cited "Too much regimentation," "No smoking rules," "Poor discipline," "Students take advantage of freedoms."

N = 1106

Table 55

A Study of the Comprehensive High School in Massachusetts

PARENT QUESTIONNAIRE

School ______________________ **Circle one in each category**

Instructions: If you have more than one child in high school, please answer for the oldest one.

Grade of child in school: 9 10 11 12
Sex: F M
Average mark: A B C D

1. Various communication media are available to schools. From which media do you obtain information? Please use the appropriate number responses in the spaces provided below.

1 - Very frequently or frequently
2 - Sometimes
3 - Never or almost never

			% 1	% 2	% 3	% NR
Radio	1 2 3	____	28	33	31	8
Television	1 2 3	____	26	22	43	9
Local and/or general newspapers	1 2 3	____	66	27	4	3
Publications prepared by school personnel	1 2 3	____	21	43	27	9
Student newspaper and/or annual	1 2 3	____	11	32	46	11
Staff and/or student appearances before community groups	1 2 3	____	4	22	62	12
School performances	1 2 3	____	10	43	36	11
School open houses	1 2 3	____	20	52	20	8
Staff affiliations with civic and community organizations	1 2 3	____	5	25	58	12
Personal contacts with school personnel	1 2 3	____	18	48	26	8

2. Would you welcome additional information about the high school?

		% R	% NR
Yes	____	90	
No	____	8	
			2

If "yes," please check the items below which would be of particular interest to you.

		% R	% NR
Courses offered	____	49	51
Course content	____	48	52
Extraclassroom activities available	____	40	60
Counselling and guidance program	____	68	32
Testing program	____	41	59
Library-audio visual aids program	____	24	76
Recent changes and innovations in instructional and organizational practices	____	46	54
Major problems (overcrowding, staffing, etc.)	____	50	50
School costs and financial status	____	33	67
Others: specify ____________________________	____	9	91

3. Which one of the following statements best describes your judgment of the feeling of your son or daughter about going to school each day?

		% R	% NR
Always looks forward to it with enthusiasm	____	11	
Usually looks forward to it with enthusiasm	____	49	
Frequently is indifferent about it	____	28	
Very often dreads the prospect of school	____	6	
Always dislikes having to go to school	____	2	
			4

4. The ten educational purposes listed below are frequently implied or expressed in statements of objectives and philosophy. Please indicate the degree of importance you give to each purpose. Use the following code for your responses.

1 - Very important
2 - Important
3 - Less important

Educational purposes

			% 1	% 2	% 3	% NR
Preparation for college	1 2 3	____	62	28	6	4
Preparation for employment	1 2 3	____	63	27	6	4
Preparation for leisure time	1 2 3	____	12	28	53	7
Preparation for a changing world	1 2 3	____	53	34	8	5
Preparation for responsible participating citizenship	1 2 3	____	63	28	4	5
Development of an understanding and appreciation of our cultural heritage	1 2 3	____	30	47	17	6
Education for international understanding	1 2 3	____	31	47	16	6
Development of acceptable competencies, skills, understandings and/or appreciation in:						
Moral and ethical behavior	1 2 3	____	70	21	6	3
Human relations	1 2 3	____	66	27	3	4
Physical and mental health	1 2 3	____	59	29	8	4

5. To what extent have you (or your spouse) been involved in the program conducted by the school? If you have not been involved very frequently, frequently, or sometimes, to what extent would you be willing to become involved in the program conducted by the school? Please use the appropriate number responses in the spaces provided below.

1 - Very frequently or frequently
2 - Sometimes
3 - Never or almost never

	Have been involved						Willing to participate					
			% 1	% 2	% 3	% NR			% 1	% 2	% 3	% NR
Overall educational planning	1 2 3	____	4	10	65	21	1 2 3	____	13	39	24	24
Adviser for special instructional program	1 2 3	____	2	4	70	24	1 2 3	____	9	29	35	27
Planning and/or supervising supplementary educational experiences for students	1 2 3	____	2	7	67	24	1 2 3	____	10	35	29	26
Overall evaluation of this school's program	1 2 3	____	2	9	63	26	1 2 3	____	14	37	22	27
Planning and/or supervising aspects of the student activity program	1 2 3	____	2	8	65	25	1 2 3	____	11	35	28	26
Educational and occupational information conferences	1 2 3	____	4	14	56	26	1 2 3	____	17	36	20	27
Others: specify ________	1 2 3	____	2	1	13	84	1 2 3	____	3	5	6	86
____________________	1 2 3	____					1 2 3	____				

6. To what extent do you think that the high school should emphasize preparation for college?

		% R	% NR
More emphasis	____	31	
About the same emphasis as now	____	56	
Less emphasis	____	10	
			3

7. To what extent do you think that the high school should emphasize preparation for a job?

		% R	% NR
More emphasis	____	61	
About the same emphasis as now	____	34	
Less emphasis	____	2	
			3

8. How would you characterize the quality of education offered in your high s

		% R	% NR
Excellent	____	22	
Good	____	48	
Average	____	23	
Below average	____	3	
Poor	____	1	
			3

9. How would you describe the standards (expectations) set by the teachers in high school?

		% R	% NR
Much too difficult	____	1	
Somewhat difficult	____	21	
About right	____	50	
Somewhat easy	____	18	
Much too easy	____	3	
			7

10. To what extent do you feel your child needs more personal attention from th school on such matters as selecting courses, going to college, getting a jo

		% R	% NR
Someone is always available, according to my understanding, when he needs to discuss such matters	____	30	
Someone is usually available, according to my understanding, when he needs to discuss such matters	____	38	
I believe that she (or he) would like to be able to talk to someone more often than she can now	____	27	
			5

11. To what extent do you (and/or your spouse) discuss with your child such mat as selecting courses, going to college, getting a job?

		% R	% NR
Very frequently	____	51	
Frequently	____	41	
Seldom	____	5	
			3

2. Do you feel your child needs more attention from the school in the development of self-understanding, self-responsibility, decision-making, and values?

		% R	% NR
Yes	____	53	
No	____	42	
			5

3. My child's last report card indicated that he was

		% R	% NR
An above average student	____	31	
An average student	____	59	
A below average student	____	7	
			3

4. To what extent do you cooperate with your son or daughter and one or more teachers, counselors, and/or administrators of your school in attempting to solve problems related to her (or his) education? Such problems might be related to the selection of courses, the selection of extraclassroom activities, the improvement of study habits, and so on.

		% R	% NR
Four times a year	____	16	
Twice a year	____	32	
Once a year	____	26	
Not at all	____	19	
			7

5. In your judgment, and taking into consideration the interests and needs of your child, what emphasis should the high school place upon the following extraclassroom activities? Please use the appropriate number responses in the spaces provided below.

1 - More emphasis
2 - About the same emphasis as now
3 - Less emphasis

			% 1	% 2	% 3	% NR
Publications	1 2 3	____	29	56	5	10
Music	1 2 3	____	16	65	8	11
Dramatics and speech	1 2 3	____	29	56	5	10
Boys' interscholastic athletics	1 2 3	____	14	65	9	12
Girls' interscholastic athletics	1 2 3	____	16	58	8	18
Boys' intramural athletics	1 2 3	____	25	56	6	13
Girls' intramural athletics	1 2 3	____	22	52	7	19
Clubs	1 2 3	____	24	57	6	13
Service organizations	1 2 3	____	29	50	5	16
Others: specify ______________________________	1 2 3	____	9	11	2	78

16. There is much discussion today about student behavior, student attitudes, and discipline. Would you characterize the discipline in your school as

		% R	% NR
Too strict	____	4	
About right	____	60	
Not strict enough	____	33	
			3

17. List the things you like most about the high school. Include those things you feel are its strengths. ______________________________

____

____

____

18. List the things you like least about the high school. Include those things you feel are its weaknesses. ______________________________

____

____

____

Table 56

STRENGTHS OF SCHOOLS AS VIEWED BY 1106 PARENTS OF STUDENTS IN 33 REPRESENTATIVE SCHOOLS

Strengths	No. of Parents	Percent of Parents
Courses and/or Curriculum (Good preparation for college, good preparation for employment, much individualized help, diversity of curriculum)	565	51.08
Professional Staff (Good teachers and administrators)	315	28.48
Administrative Rules and Regulations (Well-run, well-organized, freedom with responsibility, progressive but not free-wheeling, good school spirit)	283	25.59
Physical Facilities (Excellent facilities)	174	15.73
Extraclass Activities (Good "all-around" activities, superior athletic program and Student Council)	139	12.57
Pupil-Teacher Relationship (Good teacher-pupil relationships, sincerity of teachers for students' welfare and education)	123	11.12
Guidance (Real help with pupils' problems, adjustment seminars)	79	7.14
Communication with Parents	44	3.98
Miscellaneous (No dress code, good opportunities for work in community, good lunches)	112	10.13
No Response	271	24.50

Table 57

WEAKNESSES OF SCHOOLS AS VIEWED BY 1106 PARENTS OF STUDENTS IN 33 REPRESENTATIVE SCHOOLS

Weaknesses	No. of Parents	Percent of Parents
Courses and/or Curriculum (Poor courses for non-college bound, lack of depth in courses, overemphasis on marks, rigid curriculum, emphasis is on above and below average students with the average left to "sink or swim")	477	43.13
Administrative Rules and Regulations (Lack of discipline, poor school spirit, excessive regimentation)	325	29.39
Physical Facilities (Too crowded, poor athletic facilities, no student lounge)	242	21.88
Professional Staff (Too few outstanding teachers, large turnover, excessive emphasis by staff on above-average student)	222	20.07
Guidance (Lack of vocational guidance, inconsistencies in guidance over 4 years)	135	12.20
Communication with Parents (Lack of teacher-parent communication, need additional activities involving the community)	90	8.14
Pupil-Teacher Relationships	87	7.87
Extraclass Activities (Too much emphasis on interscholastic activities)	75	6.78
Miscellaneous (Poor lunches, lack of emphasis on doing things well)	140	12.66
No Response	268	24.23

Administrators' Views

The "DATA FORM: SUPERINTENDENTS"[*] was designed to structure a part of the conference between the superintendent and a member of the visiting team. Some of the most important views which were stated on the forms or in the conferences are enumerated below.

1. Major changes in educational objectives and philosophy which should be made during the next five years include an increased emphasis upon vocational preparation including vocational training for the non-college bound, the establishment of a closer relationship between the community and the school, an increased amount of flexibility in the program including specific provisions for individual study, and the introduction of an increasing number of class and extra-class experiences which have relevance in terms of the interests of students.

2. Major changes in the programs and services of the schools which should be accomplished during the next five years include an integration of the vocational-technical and academic programs, the development of additional exploratory courses in vocational education, an increase in the number of vocational courses offered, the provision of additional adult programs, and an extension of the school day.

3. Increased cooperation between the school and community agencies, expanded and updated work-study programs, and the organization of programs for the handicapped were cited as urgent needs.

4. Many of the superintendents reported an increase in the population of their communities of the culturally disadvantaged and of non-English speaking people. It has been difficult to make adequate provisions for them because of shortages of funds and facilities.

5. Among the most critical needs, issues, and problems mentioned by the superintendents were the need for additional funds, facilities, and staff. Improved and expanded vocational programs and an extended school day and school year were also cited.

In addition to the needs and problems cited by the superintendents the principals, on the "DATA FORM: PRINCIPALS,"[**] and in conferences between each of the principals and a member of the visiting team stressed the items listed below.

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[*] A copy of this Form is in Appendix A, page 304.

[**] A copy of this Form is in Appendix A, page 309.

1. Among the most urgent problems are changes in the subject-matter offered in specific courses with particular attention focused on increased relevance, an expansion of elective and mini-courses, strengthened provisions for articulation, the development of courses for potential dropouts and dissenters, the addition of programs in Health Education, the improvement of instructional media facilities, and the expansion of guidance services.

2. The solution to the problems cited in the preceding paragraph will necessitate increased local, state, and/or federal funds in nearly all of the schools. Moreover, increased space and other physical facilities were mentioned as urgent needs by many principals, as well as additional teachers. Additional administrative assistance and secretarial and clerical personnel were referred to, but less frequently, as types of help needed.

3. The principals were practically unanimous in defining their role in the improvement of the curriculum and instruction as that of affording leadership, and of cooperating with the staff by meeting with individuals and committees and by providing time and materials for meetings.

4. Sixteen of the 33 principals said the major deterrent to their participation in the improvement of the curriculum and instruction was the lack of time. Other deterrents which were mentioned less frequently included the shortage of funds and the lack of staff time for such work. One-third of the group indicated there were no deterrents.

5. Approximately half of the principals estimated that between 20-25 percent of the students in their schools did not find either the college-preparatory or the highly skilled vocational curricula "...relevant to their aspirations, needs, and interests."

6. More than half of the principals stated that the Careers Development Curriculum recommended in the Schaefer-Kaufman report on Occupational Education for Massachusetts seemed to be the best way to meet the needs of students in their schools "...who do not find either the college preparatory or the highly skilled vocational curricula relevant."

7. One third of the principals who were not in vocational-technical high schools did not believe their programs were articulated effectively with the programs in vocational-technical high schools Nearly all of the principals of vocational-technical high schools stated they believed their programs were articulated effectively with non-vocational high schools.

8. The principals reported that the major agencies in their communities which had a significant influence on the educational programs of the schools were business and industry, colleges and universities, labor unions, public libraries, school-related advisory committees, and churches.

9. Student unrest or militancy was not cited as a critical problem in most schools but the reported use of drugs by some students was a source of concern in a considerable number of schools.

10. Very few principals considered "teacher power" to be a critical problem. Most of the principals thought the teachers and administrators were working together as an effective team.

Teachers' Views

The views of teachers concerning various questions related to their responsibilities are presented in Table 58. From one-fourth to one-third of the teachers responded "Neutral" to many of the questions. Neutral was defined as "Neither good nor poor, neither positive nor negative, or neither favorable nor unfavorable." Among the major points, disregarding the "neutral" assessment, are the following, categorized according to teaching, professional climate, the community, facilities, professional personnel, and comments on ways and means of improving the school.

1. Teaching

   (a) Nearly half of the teachers evaluated as "Very Positive" or "Positive" the "...placement of students in the courses and curricula which correspond to their abilities and interests"; one-fourth evaluated such placement as "Negative" or "Very Negative."

   (b) One-third of the teachers characterized the time available to work with individual pupils as "Negative" or "Very Negative."

   (c) Three-fifths evaluated their opportunities to increase continuously the effectiveness of their teaching as either "Very Positive" or "Positive."

   (d) More than one-fourth evaluated "...the adequacy of the program and services ...in providing the various types of offerings needed by all of the students" as "Negative" or "Very Negative."

(e) Nearly two-thirds of the teachers evaluated as "Very Positive" or "Positive" their success in improving the effectiveness of their contributions to the program and services of their school.

2. Professional Climate

(a) Seventy-seven percent of the teachers characterized their opportunities to participate effectively in decision-making concerning the instruction offered in their classes as "Very Positive" or "Positive" and 69 percent assigned the same evaluation to participation in decision-making concerning the curriculum and instruction in their departments.

(b) More than one-third evaluated their opportunities to participate effectively in decision-making concerning general school policies and practices as "Negative" or "Very Negative" while less than one-third indicated such opportunities were "Very Positive" or "Positive."

(c) Approximately one-fourth of the teachers assessed student behavior in the school and the motivation of students to learn as "Negative" or "Very Negative"; however, nearly half assessed student behavior as "Very Positive" or "Positive" and one-third assessed motivation in the same way.

(d) More than half of the teachers assessed their professional work load as "Very Positive" or "Positive" while nearly one-fourth assessed it as "Negative" or "Very Negative". Nearly one-third characterized their load of clerical and other routine non-professional duties as "Negative" or "Very Negative."

(e) Nearly one-third assessed "...the effectiveness of communication among members of the staff concerning important matters related to the continuous improvement of the school" as "Negative" or "Very Negative."

3. The Community

(a) Thirty percent of the teachers characterized "...the extent to which the community as a whole is 'education oriented'" as "Negative" or "Very Negative" while 43 percent characterized their "...success in obtaining the cooperation of parents in the solution of individual student problems" as "Very Positive" or "Positive."

(b) About one-third rated "...the cooperation of parents with the total program of the school" as "Very Positive" or "Positive" and approximately two-fifths assessed the effectiveness of their "...contributions to the school's program of community-school relations" in the same manner.

4. Facilities

(a) Nearly two-thirds of the teachers characterized "...the adequacy of instructional materials in the classroom" as "Very Positive" or "Positive."

(b) More than half evaluated the adequacy of the library for use by students in their classes, the adequacy of the library for their own professional use, and the adequacy of the audio-visual aids available for their use in the classroom as "Very Positive" or "Positive."

(c) About one-fourth of the teachers characterized the adequacy of the classrooms they use, the adequacy of the classrooms and/or laboratories throughout the school, and the adequacy of facilities other than classrooms and laboratories, e.g., cafeteria, gymnasium, library as "Negative" or "Very Negative."

5. Professional Personnel

(a) Slightly more than half of the teachers characterized the evaluation placed upon their work and the opportunities they have for increases in salary as "Very Positive" or "Positive".

(b) Twenty-five percent rated the opportunities they have for in-service growth or improvement as "Negative" or "Very Negative."

(c) Nearly three-fourths of the teachers characterized the level of professional training expected of teachers in their schools as "Very Positive" or "Positive."

6. Comments on Ways and Means of Improving the School

(a) Twenty-five percent of the teachers indicated that modifications in administrative rules and regulations would improve the school. They cited, for example, stricter discipline, a reduction in class size, and improved communication with parents, other teachers, and the administration.

(b) Nineteen percent mentioned the need for improved physical facilities; seven percent pointed to the need for improved textbooks, supplies, and equipment.

(c) Eleven percent of the teachers cited the need for changes in courses and/or curriculum, such as increased attention upon provisions for non-college bound students and the addition of work-study programs.

(d) Nine percent referred to staffing changes as a means of improving the school with particular attention centered on the addition of staff members including teacher aides and paraprofessionals. Also mentioned was the need for a systematic program of in-service teacher education including time for teachers to plan individually and together.

N = 1821

System Code _____ School Code _____

Table 58

A Study of the Comprehensive High School in Massachusetts

TEACHER QUESTIONNAIRE

Name of your department ______________________________

Years of service:

In this school (count this year as one) _____
In other schools _____

The following questions request a response on a five-point scale, one end of which is very positive, very good, or very favorable, and the other very negative, very poor, or very unfavorable. The following numerical values represent various locations on this scale:

1 - Very positive (very good, very favorable)
2 - Positive (good, favorable)
3 - Neutral (neither good nor poor, neither positive nor negative, or neither favorable nor unfavorable)
4 - Negative (poor, unfavorable)
5 - Very negative (very poor, very unfavorable)

Please indicate your answers to these questions by checking the box labelled under the appropriate numerical value. Place a check in only one box after each question. If you feel the question is not relevant or does not pertain to you, mark column 6 labelled "Not Applicable."

We trust that you will answer the questions in terms of current conditions and practices. Ways and means of improving such conditions and practices, including future plans, should be enumerated in item "VI. Comments on Ways and Means of Improving the School."

	Very Positive % 1	Positive % 2	Neutral % 3	Negative % 4	Very Negative % 5	Not Applicable % 6
I. TEACHING						
1. How do you characterize the encouragement you receive to improve your teaching?	17	46	23	7	3	3
2. What is your evaluation of the placement of students in the courses and curricula which correspond to their abilities and interests?	8	40	23	19	6	3
3. How do you characterize the time available to you to work with individual pupils?	8	31	25	23	10	2
4. What is your evaluation of the help you receive from your supervisor(s)?	21	35	23	7	6	6
5. How do you evaluate your opportunities to increase continuously the effectiveness of your teaching?	14	46	26	8	2	3
6. What is your evaluation of the adequacy of the program and services in your school in providing the various types of offerings needed by all of the students?	9	37	25	20	6	1
7. How do you characterize the academic standards of your school?	11	52	24	8	2	2
8. What is your assessment of your success in getting students to work up to their capacity?	4	52	30	9	1	1
9. How do you evaluate your success in improving the effectiveness of your contributions to the program and services of your school?	9	55	27	5	1	2
II. PROFESSIONAL CLIMATE						
1. How do you characterize your opportunities to participate effectively in decision-making concerning the instruction offered in your classes?	33	44	11	5	3	3
2. How do you assess your opportunities to participate effectively in decision-making concerning the curriculum and instruction in your department?	28	41	16	9	3	2

	Very Positive % 1	Positive % 2	Neutral % 3	Negative % 4	Very Negative % 5	Not Applicable % 6	% NR
3. What is your evaluation of your opportunities to participate effectively in decision-making concerning general school policies and practices?	6	25	31	22	13	2	1
4. What is your assessment of student behavior in the school?	5	42	30	17	5		1
5. What is your assessment of the motivation of students to learn in the school?	2	32	40	20	4	1	1
6. How do you evaluate the satisfaction of teachers with the operation of the school?	2	32	35	22	6	1	2
7. What is your assessment of your professional work load?	12	41	23	1o	6	1	1
8. How would you characterize your load of clerical and other routine non-professional duties?	8	28	31	20	10	2	1
9. What is your assessment of the effectiveness of communication among members of the staff concerning important matters related to the continuous improvement of the school?	7	31	29	22	9	1	1
10. How would you evaluate the total professional climate of the school?	8	46	30	12	3	1	
II. THE COMMUNITY							
1. How would you characterize your success in obtaining the cooperation of parents in the solution of individual student problems?	6	37	34	13	5	4	1
2. How do you rate the cooperation of parents with the total program of the school?	4	28	41	16	5	5	1
3. How do you characterize the extent to which the community as a whole is "education oriented"?	8	28	30	22	8	3	1
4. What is your assessment of the effectiveness of your contributions to the school's program of community-school relations?	7	32	40	10	2	8	1

IV. FACILITIES

	Very Positive % 1	Positive % 2	Neutral % 3	Negative % 4	Very Negative % 5	Not Applicable % 6	% NR
1. How do you characterize the adequacy of instructional materials in the classroom?	16	45	19	11	5	3	1
2. How do you evaluate the adequacy of the library for use by students in your classes?	13	41	20	11	6	8	1
3. How do you evaluate the adequacy of the library for your own professional use?	13	38	23	15	6	4	1
4. How do you evaluate the adequacy of the audio-visual aids available for your use in the classroom?	15	41	21	13	5	4	1
5. What do you think of the adequacy of the classrooms you use?	14	33	21	17	9	5	1
6. What do you think of the adequacy of the laboratories you use?	9	16	10	8	6	48	3
7. What do you think of the adequacy of the classrooms and/or laboratories throughout the school?	9	32	27	17	7	6	2
8. How would you characterize the adequacy of facilities other than classrooms and laboratories, e.g., cafeteria, gymnasium, library?	12	33	24	18	10	2	1

V. PROFESSIONAL PERSONNEL

	Very Positive % 1	Positive % 2	Neutral % 3	Negative % 4	Very Negative % 5	Not Applicable % 6	% NR
1. How do you characterize the evaluation placed upon your work?	12	44	29	7	4	2	2
2. What is your evaluation of the opportunities you have for increases in salary?	9	45	26	12	5	2	1
3. How do you rate the opportunities you have for in-service growth or improvement?	6	32	33	19	6	2	2
4. What do you think of the procedures which you must follow to obtain consideration of any grievances you may have?	8	38	30	13	5	4	2
5. How would you characterize the level of professional training expected of teachers in your school?	14	57	21	5	1	1	1

VI. COMMENTS ON WAYS AND MEANS OF IMPROVING THE SCHOOL ____________________

____

____

____

____

Students' Views

The views of 2748 students concerning their schools are indicated in Tables 59, 60, and 61. Some of the most significant views follow:

1. Sixty-nine percent reported that they believed the emphasis on sports was "About right"; 23 percent indicated there was "Too little emphasis."

2. Fifty-eight percent stated that "Too little emphasis" was placed on "...cultural events (concerts, drama, art displays, prominent speakers)."

3. Thirty-five percent of the students considered their participation in student activities to be "Very valuable and useful" or "Valuable and useful"; 41 percent said "Perhaps of some value."

4. Thirty-eight percent reported that they did not spend any time on extracurricular activities; 33 percent indicated an average of 1-4 hours per week.

5. Forty-one percent of the students reported that they spent an average of 1-4 hours per week in out-of-school study; 30 percent said 5-10 hours; and 13 percent indicated 11 or more hours.

6. Thirty percent said that "Someone is always available when I need to discuss such matters" as selecting courses, going to college, or getting a job; 38 percent reported that "Someone is usually available..."

7. One-fourth of the students reported that the counseling and guidance they had received in school was "Not helpful at all" or "Haven't received any in this school"; 55 percent indicated "Extremely helpful" or "Some help."

8. Five percent stated that teachers required them to use the school library "Practically every day" for supplementary reading, 11 percent indicated "Once a week," 23 percent reported "2 or 3 times a month," and 59 percent said "Less often."

9. More than three fourths of the students indicated that teachers are available and willing to give outside help on their studies "Whenever it is needed," or "Usually when needed."

10. Fifty-two percent described the standards (expectations) set by their teachers as "About right"; 38 percent reported they were "Much too difficult" or "Somewhat difficult."

11. Twenty-five percent of the students described their feelings about going to school each day as "Always look forward to it with enthusiasm" or "Usually look forward to it with enthusiasm"; 44 percent said "Frequently am indifferent about it"; and 30 percent reported "Very often dread the prospect of school" or "Always dislike having to go to school."

12. Nearly half indicated they "Rarely" have opportunities to study, as a part of their course work, the things they wanted to learn, the things that puzzled them.

13. The students were asked the question, "If you could be most remembered here at school for any one of four things below, which one would you want it to be"? Seventy-six percent responded "To be accepted for what I am," 12 percent indicated "Most popular with others," seven percent said "Leader in activities," and four percent reported "Most brilliant-best student."

14. Fifty-seven percent indicated that "There is little freedom, much regimentation" to "...exercise initiative to work independently by pursuing a variety of learning opportunities (using the library, labs, seeing teachers, etc.)"

N = 2748

Table 59

A Study of the Comprehensive High School in Massachusetts

STUDENT QUESTIONNAIRE*

School ______________________________

Directions: You are asked to furnish information about your experiences in and reactions to this school. Please place an "X" in the blank opposite your response. Make only one mark unless otherwise directed.

Circle one in each category

Grade:	9	10	11	12
Sex:	F	M		
Av. Mark:	A	B	C	D

1. To what extent do you believe there is an emphasis on sports in this school?

		% R
Too much emphasis	____	8
About right	____	69
Too little emphasis	____	23

2. Which of the following best describes the situation with regard to the opportunity students have to participate in extraclassroom activities?

		% R
All or nearly all students can participate	____	36
A large number can participate	____	41
Only a few students have the opportunity	____	23

3. To what extent do you believe there is an emphasis on cultural events (concert drama, art displays, prominent speakers) in this school?

		% R
Too much emphasis	____	3
About right	____	39
Too little emphasis	____	58

4. Do you feel students in your school have ample opportunity to participate in making changes in school government, activities, and student body procedures?

		% R	% NR
Most students have ample opportunity	____	26	
Students have little freedom to make changes because of faculty control	____	32	
Student council and activities are run by a few of the most popular students	____	41	
			1

---

*Adapted with permission from "Student Questionnaire" in High School Evaluation Guide, prepared by Gordon Cawelti, North Central Association of Colleges and Secondary Schools, March, 1969.

How valuable and useful do you consider your participation in student activities to be?

		% R	% NR
Very valuable and useful	____	11	
Valuable and useful	____	24	
Perhaps of some value	____	41	
Of little or no particular use or value	____	23	
			1

What is the average number of hours per week you spend on extracurricular activities?

		% R	% NR
None	____	38	
1 to 4	____	33	
5 to 10	____	16	
11 to 20	____	8	
More than 20	____	3	
			2

What is the average number of hours per week you spend in out-of-school study?

		% R	% NR
None	____	15	
1 to 4	____	41	
5 to 10	____	30	
11 to 20	____	10	
More than 20	____	3	
			1

To what extent do you feel the need for more personal attention on such matters as selecting courses, going to college, getting a job?

		% R	% NR
Someone is always available when I need to discuss such matters	____	30	
Someone is usually available when I need to discuss such matters	____	38	
I would like to be able to talk to someone more often than I can now	____	31	
			1

To what extent has the counseling and guidance you received in this high school been helpful to you?

		% R	% NR
Extremely helpful	____	15	
Some help	____	40	
Very little help	____	19	
Not helpful at all	____	12	
Haven't received any in this school	____	13	
			1

10. About how often do teachers require you to use the school library for supplementary reading?

		%	%
		R	NR
Practically every day	____	5	
Once a week	____	11	
2 or 3 times a month	____	23	
Less often	____	59	
			2

11. To what extent are teachers available and willing to give you outside help on your studies?

		%	%
		R	NR
Whenever it is needed	____	37	
Usually when needed	____	42	
Occasionally	____	15	
Seldom or never	____	6	

12. How would you describe the standards (expectations) set by your teachers?

		%	%
		R	NR
Much too difficult	____	4	
Somewhat difficult	____	34	
About right	____	52	
Somewhat easy	____	7	
Much too easy	____	2	
			1

13. How adequate is the supply of supplementary reading materials (other than textbooks) in the library and classrooms for serving your special interests and needs?

		%	%
		R	NR
All materials are available	____	12	
Usually materials needed can be located	____	58	
Frequently materials are not available	____	21	
Library sources are very inadequate	____	8	
			1

14. Which of these statements best describes your feeling about going to school each day?

		%	%
		R	NR
Always look forward to it with enthusiasm	____	3	
Usually look forward to it with enthusiasm	____	22	
Frequently am indifferent about it	____	44	
Very often dread the prospect of school		19	
Always dislike having to go to school	____	11	
			1

In general, to what extent do the subjects you are now taking seem meaningful for your future interests and needs?

		% R	% NR
Considerably	____	31	
Somewhat	____	45	
Most seem unrelated	____	23	
			1

Do you have opportunities to study, as a part of your course work, the things you want to learn, the things that puzzle you?

		% R	% NR
Very frequently	____	8	
Frequently	____	44	
Rarely	____	47	
			1

If you could be most remembered here at school for any one of four things below, which one would you want it to be?

		% R	% NR
Leader in activities	____	7	
Most brilliant-best student	____	4	
Most popular with others	____	12	
To be accepted for what I am	____	76	
			1

How long do you expect to stay in school?

		% R	% NR
Leave school as soon as possible	____	3	
Stop formal education upon graduation from high school	____	18	
Graduate from a junior or community college	____	11	
Graduate from a 4-year college or university	____	24	
Continue college after graduation to become a doctor, lawyer or some similar professional person	____	11	
Continue education but undecided on length of schooling or type of school	____	31	
			2

How would you rate the educational opportunities offered by your high school in regard to preparation for college (or for a job if you are non-college bound)?

	Preparation for college			Preparation for a job		
		% R	% NR		% R	% NR
Very good	____	17		____	17	
Good	____	28		____	22	
Average	____	27		____	22	
Inferior	____	8		____	9	
Very inferior	____	3		____	5	
			17			25

20. The ten educational purposes listed below are frequently implied or expressed in statements of objectives and philosophy. Please indicate the degree of importance you give to each purpose. Use the following code for your response

1 - Very important
2 - Important
3 - Less important

Educational purposes			% 1	% 2	% 3	% NR
Preparation for college	1 2 3	___	50	31	16	3
Preparation for employment	1 2 3	___	52	36	9	3
Preparation for leisure time	1 2 3	___	10	29	58	3
Preparation for a changing world	1 2 3	___	46	37	13	4
Preparation for responsible participating citizenship	1 2 3	___	36	45	15	4
Development of an understanding and appreciation of our cultural heritage	1 2 3	___	18	47	31	4
Education for international understanding	1 2 3	___	31	46	18	5
Development of acceptable competencies, skills, understandings and/or appreciation in:						
Moral and ethical behavior	1 2 3	___	35	45	16	4
Human relations	1 2 3	___	49	38	10	3
Physical and mental health	1 2 3	___	47	37	13	3

21. Rank the five items below in terms of their importance to you on a job in the future (rank from 1 to 5).

		% 1	% 2	% 3	% 4	% 5	% NR
Security of steady work	___	28	19	18	11	7	17
Opportunity for rapid advancement	___	9	14	21	21	18	17
Chance to help others	___	20	12	11	18	22	17
Friendly people to work with	___	11	23	16	19	14	17
High income	___	15	16	16	14	21	18

22. What is your reaction to the criticism sometimes made of high schools that too much emphasis is placed on grades (marks)?

		% R	% NR
Strongly agree	___	35	
Tend to agree	___	38	
Tend to disagree	___	19	
Strongly disagree	___	6	
			2

23. To what extent are students given freedom and unscheduled time in which they are able to exercise initiative to work independently by pursuing a variety of learning opportunities (using the library, labs, seeing teachers, etc.)?

		% R	% NR
There is too much freedom and laxity	___	2	
About right amount is provided	___	39	
There is little freedom, much regimentation	___	57	2

24. How satisfied are you thus far with your academic achievement in high school?

		% R	% NR
Thoroughly satisfied	____	6	
Satisfied	____	46	
Somewhat dissatisfied	____	39	
Thoroughly dissatisfied	____	7	2

25. Does your school offer all the subjects you would like to take in high school?

		% R	% NR
Yes	____	51	
No	____	47	
			2

If your answer is no, list those courses you would like to take.

26. Most or all of the subject areas listed below are offered in high schools in Massachusetts. Please pick out the five which interest you the most and rank them from 1 to 5. Place a "1" beside the subject of greatest interest, a "2" beside the subject of second greatest interest, etc. to 5. Place an "X" beside those of little or no interest to you.

		% 1	% 2	% 3	% 4	% 5	% X	% NR
Agriculture	____	1	1	1	2	2	63	30
Art	____	6	4	4	4	6	43	33
Business Education	____	9	5	4	3	4	40	35
Distributive Education	____	1	1	1	2	1	51	43
Driver and Traffic Safety Education	____	3	5	6	7	8	31	40
English	____	11	11	10	9	7	21	31
Foreign Languages	____	3	4	7	7	6	38	35
Health Education	____	1	3	3	4	4	43	42
Home Economics	____	2	3	3	3	3	47	39
Industrial Arts	____	2	3	3	3	3	46	40
Mathematics	____	8	11	8	8	6	28	31
Music	____	3	3	3	4	4	44	39
Physical Education	____	6	7	7	7	8	30	35
Science	____	8	8	8	7	6	31	32
Social Studies	____	6	6	7	6	6	33	36
Special Education	____	2	3	3	2	4	44	42
Trade, Technical and Industrial Education	____	12	4	3	3	3	45	30

27. List the things you like most about your school. Include those things *you* feel are its strengths.

28. List the things you like least about your school. Include those things *you* feel are its weaknesses.

Table 60

STRENGTHS OF SCHOOLS AS VIEWED BY 2748 STUDENTS IN 33 REPRESENTATIVE SCHOOLS

Strengths	No. of Students	Percent of Students
Courses and/or Curriculum (Independent studies, quality of courses, high standards, variety of courses)	1319	47.99
Administrative Rules and Regulations (Balance between student freedoms and responsibilities, flexible scheduling, student leadership)	795	28.93
Extraclass Activities (Extensive student participation, good sports program, good Student Council)	738	26.86
Professional Staff (Competent teachers, administrators who will listen and consider requests)	666	24.24
Physical Facilities (Good school supplies, good school building, good library)	464	16.89
Pupil-Teacher Relationships (Faculty interested in students, much individual help provided students)	306	11.14
Guidance	79	2.87
Miscellaneous (Good lunches, public involvement in school, being respected for what you stand for)	354	12.89
No Response	423	15.39

Table 61

WEAKNESSES OF SCHOOLS AS VIEWED BY 2748 STUDENTS IN 33 REPRESENTATIVE SCHOOLS

Weaknesses	No. of Students	Percent of Students
Administrative Rules and Regulations (Too much regimentation, no smoking rules, poor discipline, students take advantage of freedoms)	1420	51.67
Courses and/or Curriculum (Overemphasis on preparation for college, limited vocational education, not enough one-semester electives)	933	33.95
Physical Facilities (Very crowded, poor sports equipment, poor heating system)	828	30.13
Professional Staff (Lack of qualified teachers in some courses, inadequate number of teachers)	535	19.47
Extraclass Activities (Too few extraclass activities, overemphasis on sports)	233	8.48
Pupil-Teacher Relationships (High and mighty attitude of some teachers, teachers' bias toward certain students, faculty runs the school and students have little say)	185	6.73
Guidance (Poor guidance program	114	4.15
Miscellaneous (Poor lunches, students not prepared to handle freedoms, overemphasis on popularity, too much stealing)	585	21.29
No Response	333	12.12

Chapter 4

RECOMMENDATIONS

Recommendations to achieve excellence for the diversity of student populations that are in the public secondary schools of Massachusetts are presented herewith. To make these recommendations, the staff of this Study combined the evidence from the programs and services offered in the high schools of the State, successful practices and innovations in effect in some of the schools here and in other states, and its best judgments as to desirable redirections.

Each of the thirteen categories in which recommendations are made includes a brief statement of philosophy and/or rationale and a few of the significant findings from the survey of the 251 schools, including the 66 representative high schools. The recommendations for that category follow.

The recommendations are directed, where pertinent, to the General Court, the State Board of Education, the Department of Education, school committees, and superintendents. Most are directed to the individual schools - to their professional and non-professional staffs, students, and patrons, who at the grass roots level must be involved in implementing the recommendations if changes are to be effected and improvements made in the quality of education currently being offered the particular student body of a high school.

PHILOSOPHY AND OBJECTIVES

Important educational decisions are inevitably philosophical decisions. From an analysis of the needs of students, the demands of society, and commitments to democratic values, an educational philosophy can be formulated. A school's philosophy can serve as a guide in determining its objectives and program. Objectives serve as directional goals for the school. They define the scope and development of the school's program and services as it seeks to foster the optimal development of each student. Educators and the public need to be continually engaged in the process of developing those educational objectives that are most important in view of their basic beliefs about education and the school's purposes.

Nearly all of the high schools in Massachusetts reported to the Study staff that they have written statements of objectives and philosophy which were prepared during the past five years. Teachers and administrators were primarily involved in the formulation of such statements with much less participation by school committees, parents, and students.

1. The Massachusetts Board of Education should establish broad educational goals which can serve as a standard for its public schools.* These goals should be publicized as a statement of public policy.

2. A distinction should be made between the broad educational goals for all the public schools in the Commonwealth and the more specific goals for a school system and for an individual school within that system.

3. Each school should develop a clear, meaningful statement of its educational philosophy.

4. Each school should develop a definitive statement of the educational objectives and priority goals most appropriate for the unique characteristics and needs of its student body and its community's expectations.

5. There should be involvement of the staff, students, school committee members and laymen in the preparation of the statements of philosophy and objectives, and approval of the school committee. The statements should be published and widely disseminated in the community.

6. Each faculty must formulate its specific objectives. The overall objectives and priority goals of the school must be translated into meaningful, operation-objectives in each subject area. The identification of measurable learning objectives is necessary to fix responsibility for teaching and learning and to provide essential dimensions for meaningful evaluation not only of student achievement but of the instructional program.

7. Each school should develop a long-range master plan to ensure the attainment of its goals and objectives.

8. There should be a periodic review of the school's philosophy and objectives in light of the changing needs of society and the learner.

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*The Board is in the process of developing educational goals.

THE COMPREHENSIVE HIGH SCHOOL

The high schools in the Commonwealth have the responsibility to provide an appropriate and a challenging education for all youth. It is the conviction of the Study staff that a comprehensive high school of adequate enrollment and resources can most effectively and economically meet the educational needs of the youth of the community. A high school that is widely comprehensive has the breadth of program to meet the diverse needs of all students and the depth of program to assist in the fullest development of each individual student. Comprehensive high schools of adequate size and resources have the flexibility to permit the organization of students, personnel, and facilities in various groupings to realize the greatest educational effectiveness and economy. These schools are much more likely to have adequate supportive services, such as guidance and counseling, administrative and supervisory services, and research and development services.

The low enrollments in many of the high schools in Massachusetts make it impossible for them to provide a comprehensive program on an economical basis. Ninety-two, or 30 percent, of the 305 high schools had, on October 1, 1969, enrollments of 500 or fewer students; 89, or 29 percent, between 501-1000; a total of 181, or 59 percent with 1,000 or less. The median enrollment of the 204 regular high schools was 1,041; of the 42 regional high schools, it was 704: of the 50 vocational-technical and trade high schools it was 246; and of the nine regional vocational-technical high schools it was 436.

More than one-fourth of the 1,821 teacher respondents evaluated "...the adequacy of the program and services in your school in providing the various types of offerings needed by all of the students" as "Negative" or "Very Negative." Approximately the same percentage of the 2,748 student respondents said that most of the subjects they were taking seemed unrelated to their "...future interests and needs." More than half of the students indicated they "Very frequently" or "Frequently" had opportunities to study, as a part of their course work, the things they wanted to learn, the things that puzzled them; nearly half reported they "Rarely" had such opportunities.

A serious weakness in attaining comprehensiveness in most high schools was in the lack of adequate provisions for vocational and special education.

1. The high school that is widely comprehensive and provides quality education for all of its students should meet these criteria: (1) a broad program of general education for all students; (2) an excellent program for students who plan to further their formal education in college or other post-secondary institutions; (3) a quality program of occupational education for those students who plan to terminate their formal education with graduation from high school; (4) an appropriate program of special education for handicapped students and remedial programs for students with academic deficiencies; (5) an effective program of pupil personnel services; (6) an extensive program of school activities; and (7) a high degree of flexibility and adaptability in its offerings and administrative practices so that students may have many options depending upon their individual needs and changing educational and vocational plans.

2. High schools, with enrollments of 1,200 students or more and having 100 or more students electing vocational courses, should provide for a comprehensive-type program including specific vocational offerings.

3. Other regular and regional high schools should extend their programs and services to become more widely comprehensive. When limitations of enrollment and/or resources are operative, they should have cooperative affiliation with another school to effect greater comprehensiveness in program and services.

4. Municipal and regional vocational schools should function as program centers providing vocational education. They should enroll vocationally able students from constituent schools during the upper two years of high school. These students should have made a decision to pursue a particular occupational area.

5. Half of the school time of a vocational student, in grades 11 and 12, should be spent in the area of his vocational specialty.

6. Constituent schools should offer the academic program and some of the related work during the other half of the student's time in school. Vocational students should be scheduled in academic classes with other students to minimize socio-economic segregation. Students should retain their membership in the home school and should be graduated there.

7. Admission and transfer policies and practices between municipal and regional vocational schools and their constituent schools must recognize the need for students to have multiple choices and permit them to move in and out of vocational and academic programs if their educational and vocational plans change.

8. School committees and administrators of regular school districts and those of regional vocational districts should periodically review the feasibility of organizing a single, consolidated school system under one school committee and a superintendent.

9. Large, comprehensive high schools should consider the advisability of a sub-structure of smaller schools or houses so that students, teachers, and counselors might be grouped in smaller organizations to increase personal awareness and extend the contacts between students and faculty.

ORGANIZATION AND ADMINISTRATION

To achieve maximally the goals of the school, increasing consideration must be given the question of how the school is organized and administered. Both structure and administration are facilitating agencies, means rather than ends, through which the purposes of the school can be effectively realized. The individual student and his needs should be the focus of concern as schools seek improved organizational patterns and procedures. The unique role of school administration, as compared with the executive function in other organizations, is its primary emphasis upon teaching and learning. The underlying rationale for all administrative tasks is the improvement of instruction. All school administrative decisions have as their highest aim the facilitation of learning by young people.

Most of the high schools in Massachusetts are well-organized and administered to have students scheduled uniformly and to have those in the same courses follow similar patterns of study. The evidence from the Study indicates, however, that administrators, teachers, and students would welcome less uniformity and increased diversity in patterns of study. More than half of the 2,748 student respondents reported "There is little freedom, much regimentation" for them "...to exercise initiative to work independently by pursuing a variety of learning opportunities (using the library, labs, seeing teachers, etc.)." One-third of the 1,821 teacher respondents characterized the time available to work with individual pupils as "Negative" or "Very Negative."

The rigidity of the schedule also makes it impossible, in many schools, for teachers to plan adequately, either individually or in groups.

The data obtained from the schools indicate that many of them are reviewing and some are modifying their policies and practices in placing students in classes.

The role of the principal and his administrative staff is receiving much attention in Massachusetts and throughout the United States. It was encouraging to note that, in the preparation of the budget for his school, two-thirds of the schools reported that the role was to "plan, recommend and defend specific requests before final decisions are made." It was discouraging, however, to note that the major responsibility for this important function was carried by the central office in about one-third of the schools.

1. Organizational and administrative decisions must have as their purpose the facilitation of effective teaching and learning.

2. Superintendents should recommend and school committees should adopt policies which clarify the role of the principal and define clearly his authority and responsibilities as the executive head of the school.

3. The principal should be responsible for the formulation of policy at the school level and should participate in policy-making at the district level when such policies affect the school's operation.

4. Lines of administrative and supervisory authority between the central office and the administration of the school should be clearly delineated.

5. There must be greater involvement of the faculty of the school in the development and implementation of school policies and procedures. More decisions must be made at the source of effective action.

6. School committees and teachers' associations in collective bargaining must recognize the need in the high school for substantial autonomy, particularly in curriculum and instruction. The entire faculty must work as a professional team in individual and cooperative effort to improve the educational program.

7. The principal and his staff should share decision-making with students, parents, and other citizens when their involvement is appropriate and can contribute to better understanding and school improvement.

8. The principal must assume the role of educational leadership. As an educational leader, he must in collaboration with his staff: (1) play a responsible role in policy development and implementation; (2) clarify and interpret the aims and objectives of the school; (3) foster the full professional growth and involvement of all staff members; (4) facilitate change and innovation, especially in the instructional program; and (5) enlist community understanding of and support for those resources that will provide teaching and learning effectiveness.

9. The principal should have primary responsibility for decision-making in the selection, orientation, development, and coordination of personnel under his supervision. Persons assigned to the school should be responsible to the principal in the performance of their duties.

10. The principal should assume the responsibility of achieving effective interaction and coordination between the teaching staff and the supportive personnel of the school and the school system.

11. The organizational structure of the school must be released from the lockstep of time and space. Many more opportunities must be afforded students for self-direction and responsibility in their educational endeavors. Organizational alternatives include: flexible schedule, independent study, work-experience programs, community-service programs, extended school day and school year, classrooms without walls, and open campus.

12. The Study staff supports the Open Campus Plan endorsed by the State Board of Education as a viable alternative to the traditional five-and-a-half hour school day. Schools are urged to develop organizational structures and programs designed to implement the proposed Plan or another plan more appropriate for the individual school.

13. The State Board of Education should initiate a study of the diploma requirements for graduation from high school. Emphasis upon performance criteria as measures of competence and learning rather than time spent in formal classes should be the focus of the study.

14. Organizational changes should be made that will provide teachers with adequate time during the school week to prepare for their professional tasks, to keep-up-to-date in their subject field, to work with colleagues on instructional improvement, to confer with students and parents, and to improve evaluation techniques and reporting.

15. The enrollment, character of the student body, and the organizational model of the school are among the variables that should determine the number and assignments of the administrative staff.

16. Until regionalization of small districts is achieved, high schools of 250 students should have a full-time principal. Schools with an enrollment of 500 students should employ a full-time administrative assistant in addition to the principal.

17. As an organizational model in a high school of 1,000 students, the principalship team might comprise the principal, an assistant principal, and two specially trained administrative assistants. These assistants would be assigned many of the technical-managerial duties related to the daily operation of the school, including discipline, attendance, scheduling, business management, and school activities. The principal and the assistant principal working with the teaching staff would develop and coordinate a program of school improvement, particularly in curriculum and instruction.

18. In larger high schools of 2,000 or more students, the organizational model might have a higher proportion of professionals on the principalship team and supportive staff to provide personnel for smaller administrative units within the large school.

19. Many schools are concerned about the operational effectiveness of the departmental organization. Policies and job descriptions should be established which define clearly the authority, functions and responsibilities of department chairmen. They should be given the time and resources essential to the successful performance of their assigned duties.

20. Alternative models to the departmental organization, such as instructional coordinators, division heads, subject and interdisciplinary team leaders, merit increased study and experimentation.

21. Schools should employ at least one-third of their teachers on a twelve-months' contract because of the increasing need to have staff members operate extended year programs, to supervise special educational programs, to engage in curriculum development and research, material production, and in-service activities.

22. Schools should extend the length of the school day to increase the number and variety of educational programs and services available to students. In a number of schools, an extended day would relieve overcrowded facilities.

23. Summer school, on a tuition-free basis, should be available to all students in their local school or on a regional arrangement. The State should share the cost of summer schools.

24. The State should encourage the development of year-round programs and should finance a large part of the cost of pilot programs to determine the dimensions of the year-round school.

STAFF

The preparation and performance of educators must be given primary emphasis, since our hopes for progress ultimately depend upon the competence and dedication of those who serve education. There are many unanswered questions about school personnel policies and procedures and how each staff member can contribute most effectively to the successful functioning of the school. Viable means must be developed through which all members of the educational enterprise can participate in collaborative discussions, analyses, and solutions of the various personnel problems that a school and school system face. It is essential that schools continue their search for the highest possible dividend from their investment in people, both professional and non-professional.

Inadequate space for teaching and for essential planning by individual teachers and groups of teachers, inadequate funds for teaching materials and equipment, a very rigid and inflexible schedule, and a limited number of teachers in some subject areas which led to excessive class size were among the major obstacles to change and improvement in one or more subject areas which were cited by the schools.

More than one-third of the 251 schools reported that the time available to the principal and the school staff for effecting change and innovation in the improvement of the curriculum and instruction was "Inadequate." Nearly one-fifth said the resources needed to effect improvements were "Inadequate." However, almost nine-tenths of the schools reported the degree of responsibility which the principal and school staff had for effecting change was either "Very adequate" or "Adequate" and approximately the same number indicated their authority was likewise "Very adequate" or "Adequate."

1. School committees, administrators, and teacher organizations in cooperative effort should develop personnel policies and procedures that stimulate and reward increased levels of professional competence and performance.

2. Improved means of deploying staff, more differential systems of compensation, and clearer recognition of professional performance are needed areas of change. Innovative personnel programs should have the encouragement and support of professional organizations.

3. The school committee and the superintendent should encourage and support changes in the school that are aimed at increased teacher effectiveness and improved professionalization of teaching.

4. The principal and his staff should determine the professional, quasi-professional, and non-professional tasks which are to be performed, who can best do them, and make recommendations concerning improved practices in staff utilization to the central administration.

5. Differentiation in the roles of staff members is a trend that should continue. The school should study and evaluate various models of differentiated staffing in terms of their potential to improve the quality of instruction and provide more individualized learning programs for students.

6. Teachers must be actively involved in the development, implementation, and evaluation of any plan of differentiated staffing.

7. Every teacher should have regular access to clerical help for those routine tasks that should be assigned to clerks.

8. Deterrents to the effective performance of professional duties by individuals and groups, such as lack of time, schedule conflicts, inadequate resources, and limited work spaces, should be carefully examined by the faculty. Appropriate steps to alleviate the problems should be taken at the school and/or the district level.

9. Improved communication and more effective articulation procedures among staff members in the school and with colleagues in other schools should be instituted.

10. The recommendations in the MACE Study, Teacher Certification and Preparation in Massachusetts, should be implemented. Other recommendations follow which are pertinent to the improvement of in-service education in high schools.

11. Participation in professional growth activities should be the responsibility of all staff members.

12. Each school should have an effective program of in-service education. It should be designed for the self-improvement of the faculty and the general improvement of the school. The staff should be involved in the development, functioning and evaluation of the program.

13. In-service education should also be designed to help staff members perform more effectively their roles in the process of educational change.

14. The Department of Education must improve significantly its leadership and service functions in professional development programs in the schools. Schools should request and receive more assistance from the regional offices of the Department.

CURRICULUM

The over-all purpose of the educational program in our high schools is the development of a curriculum which is relevant to the student's needs, his aspirations, and to the adult roles that he may play. An adequate program affords each student a number of options for his future - a job, college entry, further vocational training, or a combined work-study program. In addition, it helps him develop his greatest potential as a person, and prepares him to assume the duties and responsibilities of an effective citizen. Recognizing the breadth of the educational needs and interests which the unselected student body in the typical school possesses, the multi-purpose curriculum in the comprehensive high school can best meet the common, integrating needs of all students, and the specialized needs of the individual student.

Many promising curricular changes and innovations are underway in a large number of schools.

Special programs designed to individualize instruction were reported, particularly in remedial and honors work. In English, for example, approximately half of the regular and regional high schools reported remedial and honors programs and about one-third of the vocational-technical and trade and regional vocational-technical schools indicated they were offering remedial programs.

The most significant changes in subject-matter content during the past five years seemed to be related directly to improvements in comprehensiveness, quality, and relevance. The most significant changes in the instructional materials used centered on the increased use of audio-visual aids.

Numerous changes were reported in instructional and organizational practices. More than half of the schools reported, for example, that major attention had been given to large group instruction in Music and in Physical Education, to the individualization of instruction in Art, Health, Home Economics, and Industrial Arts, and to problem-solving in Science.

Taking into consideration the entire program of the school, from one-half to nine-tenths of the 251 schools assessed the effectiveness of various provisions for articulation as either "Very effective" or "Effective." When, however, the various subject areas were considered, the picture changed somewhat. In English, to cite one illustration, 45 percent of the regular high schools reported that articulation with postsecondary educational institutions was "Ineffective" or "No provisions"; 38 percent indicated that articulation with feeder schools was likewise "Ineffective" or "No provisions."

1. The priority goals and the specific objectives of the school should give direction and purpose to curriculum planning and improvement.

2. All high schools should provide a curriculum that has these components: (1) a program of general education* for all students; (2) a program of college preparation; and (3) a program of occupational education, including cooperative work-study education. In addition, all students in the last two years of high school should have access to a variety of vocational offerings in their school or at a regional center for vocational education.

3. The general education program for all students should be improved to meet more effectively the common needs of youth for competence as a person and as a citizen. Schools should define and require those areas of "common" competence which they determine are essential and should be attainable, at least at a minimum level, by all students.

4. A formal course in health and safety education, taught by a qualified person in the subject, should be included in the general education program of all schools. Other suggested subject areas for inclusion in general education are social and civic education, family living education, and economic education.

5. Segments of the general education should be integral parts of the college preparatory and occupational education curricula. The extent to which an individual student takes work in general education beyond that required of all students should depend upon his abilities and interests.

6. The "general" curriculum, not general education but an alternative program to the college preparatory and the occupational education curricula, is included in the program of most high schools and enrolls many students. This curriculum must be phased out. Mounting evidence indicates that students in this curriculum would be better served by enrollment in a functional program of occupational education or in a curriculum preparatory to further education. Students should have the option of electing courses in both programs.

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*Not to be confused with the "general" curriculum.

7. The most pressing and critical curriculum problem confronting most high schools is the development of an effective, functional curriculum in occupational education. Schools must offer programs which provide students with career information, marketable occupational skills, and preparation for further vocational-technical education.

8. The Careers Development Curriculum is recommended by the Schaefer-Kaufman Study - Occupational Education in Massachusetts, and the MACE Advisory Committee on the Study, as the educational program that can best realize the unmet vocational needs of many students. The Massachusetts Secondary School Principals Association should organize a Task Force charged with the responsibility to further define the objectives, structure, and scope of the Careers Development Curriculum, and to establish guidelines for pilot programs in a selected number of high schools. Membership on the Task Force should include representatives from the Massachusetts Secondary School Principals Association, the Massachusetts Association of Vocational Administrators, the Massachusetts Association of School Committees, the Massachusetts Association of School Superintendents and the State Department of Education.

9. The Division of Curriculum and Instruction should have the authority and responsibility at the state level for the development and implementation of the Careers Development Curriculum.

10. A considerable degree of autonomy should be afforded schools in the development of the curriculum in occupational education. Experimental programs should be encouraged emphasizing innovations in the structure and content of the offerings, instructional methods, and staffing patterns. Information about exemplary programs should be widely disseminated by the Department of Education and its regional centers.

11. Cooperative work-education programs should be developed in all high schools. These programs should be designed, through partnership with business and industry, to give students work experience and related education in jobs closely allied to their educational and career goals.

12. The major thrust in curriculum improvement and innovation in most high schools has been in the college preparatory program. Continued efforts aimed at the development of new offerings including mini-courses, multi-disciplinary programs, and revisions in the structure and content of existing courses are recommended. The focus should be increasingly on the quality and authenticity of instructional content organized around basic concepts or themes in the various curriculum areas and on its relevance to the needs and concerns of students.

13. Many high schools should extend their offerings in the arts and humanities. In too many schools the emphasis in the performing arts is on the development of the talents of a limited number of students.

14. Programs in independent study which afford opportunities for students to work individually or on special projects should be offered more extensively. Such programs to be effective require careful planning and active participation of the staff.

15. Programs in special education should be improved and extended in many schools. Where this is not economically feasible, state-supported schools must be established on a regional basis.

16. There should be sufficient elective offerings to permit all students to pursue in depth their academic, cultural, and vocational interests.

17. Each curriculum area should be under continuous study and evaluation not only to determine what should be offered but what is being learned.

18. The regional centers, adequately staffed and supported by the Department of Education, and various universities should work in partnership with the schools to initiate innovations and to conduct experimentation and research aimed at the improvement of the instructional program in the schools.

19. The school should establish a program of youth volunteer activities as a part of the school's service to the community and as a means of furthering the relevance of youth education.

20. The summer school curriculum should include remedial, accelerated, and enrichment offerings. In addition, many other options should be open to students, including a variety of courses to develop specific skills and expand interest areas, work experience programs, and volunteer service-oriented activities.

21. Articulation must be improved with feeder schools, within a department of the school, within a department of the high schools in the district, among departments in the school, with post-secondary educational institutions, and with business and industry. Effective articulation of these dimensions is essential to achieve comprehensiveness, high quality, and timely relevance in the instructional program and services of the school.

EDUCATIONAL MEDIA PROGRAM

Curriculum changes, improved teaching methods, extensive use of a wide variety of instructional materials, new patterns of organization for instruction, and technological developments all emphasize the need for improvements in the educational media program. Necessary improvements include the entire range of educational media services, not only those associated with the library, but also many audio-visual and electronic services. An effective program requires appropriate facilities, a wide variety of instructional materials and equipment, and a professionally and technically trained media staff. The program is functional to the extent that it is fully integrated with the instructional program.

The findings of the Study disclosed a number of serious weaknesses and shortcomings in the educational media program of many high schools. One illustration will highlight this point. The level of adequacy of the educational media staff to serve the needs of students and teachers was reported by the 251 schools as "inadequate" or "not available" for educational media (supervisor or director) in 48 percent of the schools, for librarians in 33 percent, for library clerks in 59 percent, for audio-visual clerks in 72 percent, for audio-visual technicians in 67 percent, and for student aides in 33 percent.

Other weaknesses and shortcomings which were cited by numerous schools pertained to the inadequacy of physical facilities, deficiencies in the quantity and quality of media materials and equipment, inaccessibility of services to teachers and students, and lack of effective organization and coordination of the program.

An encouraging strong point in the media programs was the extent to which teachers were involved in the selection of library and audio-visual materials and equipment. Of the 251 schools, 81 percent indicated such involvement was either "Very adequate" or "Adequate" in the selection of library materials and equipment, and 79 percent assigned the same ranking to the selection of audio-visual materials and equipment.

The extent to which teachers require students to use the library should be reviewed. More than half of the 2,748 student respondents said this requirement obtained "Less often" than " 2 or 3 times a month."

1. The State Board of Education has adopted Standards for School Media Programs.* Few schools in the Commonwealth meet these high

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*Standards for School Media Programs, American Library Association and the National Education Association, 1969, 66 pages.

standards in staff and services, materials, equipment, and facilities. The implementation of these standards will require a high level of state funding. The Department of Education must determine the priority to be given school media programs in relation to many other pressing demands for improvements in educational programs and services.

2. An extended and coordinated media program should be developed in the Department of Education. Regional centers can then provide numerous resources and services to the schools.

3. Each high school should have the facilities, resources, and services essential to an effective media center. This center should have a full complement of print material and audio-visual media, necessary equipment, and services from media specialists.

4. Larger schools should have one or more instructional resources facilities in conjunction with the media center or housed separately.

5. The media center should be a service agency in which teachers and students secure instructional materials, equipment, and receive effective guidance in their use.

6. Budgetary allotments for staffing, for the purchase of printed and audio-visual materials, and for the purchase and repair of equipment must be increased considerably in most high schools to insure quality educational media services.

7. A full-time professional specialist for every high school of 250 students up to 500 is recommended. There should be added one media specialist for every additional 500 students or major fraction thereof.* The staff of specialists should be adequately prepared in library science, audio-visual education, and curriculum and instruction.

8. There should be at least one media technician and one media aide employed for each media specialist. The services of the media technician would include production of materials, repair and maintenance of equipment, and assistance in media presentations and information processing. The media aide would do clerical and secretarial work.

9. Student aides should be used to enhance the quality of the program and provide valuable learning and work experience for the students.

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*Standards for School Media Programs recommend that the media center have one full-time media specialist for every 250 students or major fraction thereof.

10. Specifications and recommendations concerning print and audio-visual materials and types and quantities of equipment needed for a satisfactory, functioning school media program are available from various sources. These data should prove useful guidelines to schools in bringing these resources in line with the needs and requirements of their instructional programs.

11. Adequate space for the media program should be provided. New building construction and plant additions should make provision for these facilities. Reallocation of spaces in present buildings and more effective utilization of present facilities are recommended for numerous schools.

12. The media specialists to be effective must participate in programs aimed at curriculum and instructional improvement.

13. The regular and planned use of the library and audio-visual services by students should be an integral part of the instructional program in the various learning areas.

14. A faculty-student committee should work with the media staff in efforts to extend the use and services of the center and to evaluate its effectiveness to the staff and students.

15. Each school should provide adequate professional materials in suitable space for its staff.

16. A periodic study of facilities, resources, and services of the educational media program should be instituted and subsequent reports made to the superintendent concerning services performed and needed areas of improvement.

17. There is a pressing need for extensive research, experimentation, development, and evaluation in many areas of educational technology. This requires an effective working relationship among the Department of Education, school systems, teacher education institutions, and producers of educational technology to the end that the effectiveness of educational equipment and materials and the economics of their use can be determined.

GUIDANCE PROGRAM

Guidance services constitute an integral part of the educational program of the school. These services seek to focus the educational processes on the individual student. The guidance program in the comprehensive high school is designed to assist each student with his particular problems and needs and aid him in recognizing and achieving his potential. The near unanimity on the value of guidance must challenge all schools to effect greater clarification of the role of the guidance program and to ensure continuous improvement in its services to each student.

Improved organization and coordination of the guidance program are needed in many high schools and school systems. Approximately 60 percent of the schools reported a student-counselor ratio of one counselor per 300 students or more. Many counselors are involved in numerous quasi-administrative and clerical tasks with the result that they do not have sufficient time to perform their professional responsibilities. The number and quality of consultative and referral resources in the school system and in the community are often inadequate, and services which are available are frequently not used effectively. Sixty-eight percent of the parent respondents stated that additional information about the guidance program in their school would be of particular interest to them. Fifty-five percent of the students indicated the counseling and guidance they had received was "Extremely helpful" or "Some help," and 44 percent reported "Very little help," "Not helpful at all," or "Haven't received any in this school." About one-third of the students said they would like to talk to someone more often than now concerning "...such matters as selecting courses, going to college, getting a job."

1. The State Board of Education has approved the establishment of a Bureau of Pupil Personnel Services. This Bureau should have adequate staffing and resources to provide leadership and services in the implementation of many of the recommendations proposed in the MACE study, Pupil Services for Massachusetts Schools.

2. Guidance is more than an auxiliary service. It should function as an essential school service rather than on the periphery of the school's educational program. The guidance staff should cooperate with teachers in the development of an instructional program that is responsive to the needs and interests of all students. Similarly, teachers should be involved in the improvement of the functions and services of the guidance program.

3. There should be a clarification of the roles and functions of the guidance staff, including differentiated assignments to counseling, group work, consulting, and research responsibilities.

4. The counselor is a staff specialist and should only perform those services expected of a professional worker.

5. Guidance programs purport to serve all students. Each school should continually assess the adequacy and effectiveness of individual and small group counseling.

6. Improved services in vocational information, occupational counseling and placement must be available.

7. Systematic follow-up studies of students after they leave school must be conducted. Results of these studies should be analyzed not only to appraise the guidance program but to supply important data relative to needed curriculum changes and the degree to which the educational goals of the school have been achieved.

8. Adequate career and college information service must be available in the school.

9. The number of counselors must be increased in many schools.

10. A minimum of one full-time clerical person should be assigned to every two guidance staff members.

11. The roles of teachers in the guidance program should be more clearly defined and the carrying out of these responsibilities more carefully evaluated.

12. Teachers, students, and guidance personnel should be involved in a systematic plan of evaluation of guidance services.

13. Parents should be better informed about guidance functions and services and how they can effectively relate to the program.

STUDENT INVOLVEMENT

The school has the responsibility to prepare young people to live in the society which they will build. Each school is confronted with the challenge of what must be done to channel the energies and drive of youth into increasingly successful programs of meaningful experience and relevant learning. Commitment and involvement of students in many phases of the educational enterprise are new dimensions in our quest for improved education for every youth. Students must find their teachers and administrators working with and for them in creating a democratic environment which is sensitive to their needs and responsive to their aspirations.

With more freedom and encouragement to express their opinions, students in our high schools are increasingly articulate concerning what they like and dislike about their education. From the student questionnaires and from group conferences in the 33 representative schools, the Study staff learned a great deal about how many students felt and what they thought. Above all else the students wanted to be respected for what they were. They wanted to be involved in more meaningful ways in the school and in the community. They wanted to learn what they consider relevant and important. Their concerns about the school were identified with: (1) the breadth and relevancy of the curriculum, (2) the adequacy of the staff, (3) the scope and quality of the student activity program, (4) administrative rules and regulations, particularly those related to dress codes and discipline, and (5) the machinery for participation in school government.

In other categories, a number of recommendations were made which urged schools to extend the active participation and responsible involvement of students in many facets of school life. Other recommendations follow:

1. The State Board of Education approved Guidelines for Student Rights and Responsibilities. These suggested guidelines should be carefully studied and appropriate policies and procedures adopted in the individual school and school system.

2. School committee policies should clarify and delineate the authority and responsibility of the principal in sharing decision-making with students.

3. Administrative regulations and procedures should reflect a greater concern and sensitivity to the need to involve students in the development, revision, and execution of such regulations and procedures.

4. Policies and procedures for handling student activism should be established with participation by school committee members, administrators, teachers, parents, and students.

5. Students should become more active in learning, more self-directive, and more involved in planning their own education.

6. Faculty-parent-student advisory councils are functioning very successfully in many schools. The organization of such groups should be extended.

STUDENT ACTIVITIES PROGRAM

Extraclassroom activities are a significant element in the total educational program of a high school. The findings of the Study indicate that there are many serious concerns and numerous problems related to the administration and supervision of the program. The expansion or reduction of the program is an issue that continues to confront most administrators and their staffs. Sixty-three percent of the schools reported that from 61-100 percent of the students participated in at least one activity. The schools reported the major deterrents to student participation were the work schedules of students, limited physical facilities, lack of student interest, and bus schedules.

Thirty-five percent of the student respondents indicated they considered participation in student activities to be "Very valuable and useful" or "Valuable and useful," and 41 percent said "Perhaps of some value." The students freely expressed their opinions about the deficiencies and limitations in the programs in their schools. They cited the lack of diversity and balance in the program, the need for wider student participation, and the necessity for greater student involvement and responsibility in the development, organization, and supervision of the program. The following recommendations are directed at the problems and concerns of many high schools.

1. Those activities that have the potential of making significant contributions to the needs of students should be offered.

2. The program of school activities should be designed to contribute to the optimum development of students. They should be afforded the maximum opportunity to plan, direct, and evaluate the activities program.

3. The program should be so diversified and comprehensive that each student has an opportunity to pursue in depth existing interests and talents and to develop new ones.

4. Increased emphasis should be placed on activities that offer opportunities for students to develop leadership and interaction skills.

5. The program should be extended to include more community-service activities.

6. Activities should be supervised by qualified sponsors who are employees of the school.

7. Commitment to and participation in the program by an increasing number of interested staff members are critical factors in the development of a strengthened program in many schools.

8. An appraisal study in the school is recommended to determine the present status of the program, its strengths and weaknesses, and the areas of needed change and improvement. The study team should have representatives from the administration, staff, students, parents, and persons from youth-serving agencies in the community. The present program should be carefully evaluated and steps initiated to develop a program that more nearly serves the needs and interests of the student body.

9. The problems are state-wide in many respects. The leadership role of the Massachusetts Secondary School Principals Association in the establishment of effective guidelines and higher standards for the development, administration, and control of student activities programs must be accepted by member schools. The Association should continue its efforts to gain increased support and understanding from the public for a broadly based and balanced program of student activities in all schools.

10. More financial support from school district funds should be provided in many schools to ensure the achievement of a more diversified and balanced program of student activities.

SCHOOL-COMMUNITY RELATIONS

Lay participation and control are the cornerstone and foundation of public education. Public opinion is the force that determines ultimately the progress of a school system. The need for an effective means for the public will to identify and support the desirable goals and program of the schools is the reason for school-community relations. A good program of educational communication provides the public an opportunity to know, understand and influence the development and direction of their schools. A high degree of intercommunication and interaction between the public and the schools gives purpose and value to the school as a democratic institution.

There is a widening communication gap in many communities between what the school people seek to achieve in the education of youth and what the public think the schools are accomplishing. There is an increasing concern on the part of the public about higher educational expenditures and how these increased costs are related to improved programs and services. Parent respondents in the Study stated that they are largely dependent upon local and area newspapers for their information about education. More than two-thirds of the parents surveyed stated they would welcome more information about the guidance program. Approximately half of the parents said they would welcome more information about courses offered and their content, major problems in the school and district, and recent changes and improvements.

Less than five per cent of the parent respondents indicated that they were "Very frequently or frequently" involved in programs conducted by the school, including planning and evaluation. Yet significantly approximately three-fourths of the parents stated that the quality of their high school was either good or excellent.

Thirty-five percent of the 251 schools reported they sponsored, in their programs of community-school-parent relations, special advisory committees, 29 percent a Parent-Teacher Association, and 22 percent a Lay Advisory Council.

1. The school committee should have written policies on educational communications. Commitment of the school committee should include the delegation of the authority to the administration and the allocation of necessary resources to carry out the purposes and policies of effective school-community relations as indicated in the policy statement.

2. There must be a planned, systematic program which facilitates a two-way process of communication between the schools and their publics. It must provide an effective means for the public to communicate its desires and expectations and for the schools to make known their role, objectives, program, accomplishments and needs.

3. The program should be so planned and administered that it clearly delineates the roles and responsibilities of the central administration and each school unit in the district. A member of the superintendency team should coordinate the system-wide program.

4. There are particular communication problems and needs that merit special concern to the high school and necessitate a program in the school that is designed to achieve improved communication and better relations among the faculty, students and patrons.

5. Schools should provide the public with accurate, pertinent information about increasing educational expenditures and how these higher costs are related to improved programs and services. Most parents want quality education for their children, but this desire is related to what they must pay for it.

6. Parents should have more information and a clearer understanding of evaluation procedures and criteria for evaluating a quality school. Such knowledge could enhance their effectiveness in communicating their opinions about the school to other citizens.

7. Schools should develop reliable procedures for identifying the scope and intensity of public demands for the addition or elimination of certain programs and services. Educators generally interact with but a small segment of the total community.

8. A variety of communication media and their effective use are needed in the school and school system.

9. A survey instrument, perhaps similar to the Parent Questionnaire in the Study, should be used to determine what parents think about their school and their opinions as to what program of communication should be planned and operated.

10. An effective program should involve not only disseminating information, but provide opportunities for feedback and reactions from interested publics.

11. Subjects of interest and concern to parents should be included in the school communication service.

12. The program in many schools should make provision for greater use of lay committees to advise and counsel school personnel, more encouragement to parents and other citizens to attend school-related functions, and extended involvement of the faculty in community organizations and activities.

13. School publications should be a more effective medium of communication with the home and community.

14. Encouragement and instruction of school personnel in the use of effective communication techniques should be an important phase of the program.

15. The State Department of Education, professional organizations, and many institutions of higher education should cooperate with the high schools by extending their services in the field of educational public information.

SCHOOL FACILITIES

School buildings are undergoing many changes as a result of progress in architecture, technology, and changing concepts in education. Tomorrow's school plants will be adaptable to changes in enrollment, educational programs, and instructional procedures. They will increasingly provide a high degree of versatility, adaptability, and flexibility to ensure functional spaces as changing needs for teaching and learning emerge. The school facilities, consisting of the site, buildings, equipment, and services, should provide a physical environment that is conducive to the successful functioning of the educational program.

The lack of adequate and functional school facilities is a serious problem in many high schools. A number of high schools are overcrowded; others are near to full space utilization and will, with mounting enrollments, soon be overcrowded. There is a shortage of offices and work spaces for teachers in many schools. Most of the high school buildings and schedules do not presently provide the flexibility necessary for large and small group instruction. Perhaps the most serious inadequacy in facilities is in space, materials, and equipment for the library and audio-visual program.

The development of a Careers Development Curriculum will necessitate major additions and/or alterations in facilities in many schools, particularly in the Industrial Arts and Home Economics areas.

More than two-thirds of the 251 schools reported that the "...inflexibility and/or inadequacy of physical facilities" were deterrents to needed improvements in the educational program.

More than one-third of the schools indicated that financial constraints were "Seriously" affecting the provision of needed building facilities.

Fifty-six percent of the schools said that civic and community organizations use school facilities "Several times a month"; another 25 percent reported "Several times a year".

1. New building construction, additions and alterations to existing buildings, and maximum utilization of space are the obvious alternative solutions to inadequate physical facilities in many high schools. The need for more adequate, functional facilities must receive high priority in many school districts.

2. Stronger state leadership and improved services must be provided by the Department of Education to school districts in the planning, construction, modernization, financing, and maintenance of school buildings. This Study supports the recommendations in the MACE Study, Report of the Massachusetts Business Task Force for School Management, that would strengthen the capacity of the Department to assist schools with their building problems and needs.

3. School facilities should be an integral part of a community planning program.

4. The educational program in a school district bears many evidences of the influence of the physical environment. Adequate school facilities should be of major concern to the central administration and the school committee. They should develop a long-range plan of building construction and modernization. Priorities should be established so that funds may be expended efficiently and economically to meet immediate and future building needs.

5. The school committee should have the maintenance management of school facilities.

6. The principal and his staff share many of the responsibilities of the central administration as they relate to the specific school plant. There should be a continuing study of efficient space utilization and building needs and recommendations with supportive data made to the superintendent.

7. Teachers should have adequate spaces to plan, to prepare materials, to evaluate, and to confer with colleagues, students and patrons.

8. The quality and efficiency of maintenance services should be improved in many schools.

9. Principals should involve the staff and students more effectively in the proper care of the school plant.

10. Youth education will increasingly extend beyond the walls of the school building. There should be more extensive use of community facilities.

11. School facilities should be available and adaptable to extensive community use.

12. In some instances, specialized facilities should be shared with several schools in the district and with other districts.

EVALUATION

Schools are being called upon to provide accountability to their publics not only for the inputs received, but for the outcomes produced. Citizens increasingly want to hold schools accountable for results in terms of student learning rather than solely in the use of resources. Evaluation is the best means by which accountability to students, the public, and the teaching profession can be achieved. Increased impetus must be given to a rethinking of the purposes of evaluation, the refinement of existing procedures, and the development of new and improved evaluative techniques.

Fifty percent of the parents who completed the parent questionnaire reported they thought the "...standards (expectations) set by the teachers..." were about right. About one-fifth indicated they were somewhat easy or much too easy and approximately the same number said the standards were somewhat difficult or much too difficult. More than half of the 2,748 students who completed the student questionnaire thought the standards were about right but nearly two-fifths indicated they were somewhat difficult or much too difficult.

Reports from the 251 schools show that most of them administer intelligence, standardized achievement, college entrance, and college scholarship tests; a much smaller number give personality and interest tests. The evaluation in subject areas was carried on, for the most part, through oral and written subject-matter tests and through conferences with students. An encouraging number of schools reported that students were actively entering into their evaluation programs.

1. The State Department of Education, the New England Association of Colleges and Secondary Schools, institutions of higher education, school systems and individual schools share the responsibility of advancing knowledge about measurement and evaluation. They also share the responsibility for determining how procedures and techniques of evaluation can be used most effectively. Effective evaluative instruments are especially needed in problem identification, setting of priorities, the change process, decision-making, and prediction of outcomes.

2. At least three percent of the operating budget of the school system should be allocated for research, development and evaluation. Included in this allotment, funds must be available

for staffing, evaluative instruments, and consultative services to ensure an effective evaluation program in the individual school and in the school district.

3. More emphasis should be placed on evaluating student outcomes based on measurable objectives rather than the resources, such as facilities and program, that the school possesses.

4. There must be a continuous, comprehensive program to evaluate student progress and development.

5. There must be a parallel program for evaluating the curriculum, instructional processes, staff, organizational characteristics, and supportive services with reference to their effect on student progress and development.

6. Self-evaluation techniques should be used extensively by all staff members. They should develop meaningful goals and criteria for the appraisal of their work.

7. Evaluative instruments should be used by students which help them assess continually their own progress and examine their goals.

8. The total evaluation process should not only provide an accurate assessment of student outcomes and school services, but also should include specific recommendations of needed changes and improvements.

9. Nearly all public high schools in the Commonwealth are members of the New England Association of Colleges and Secondary Schools. Membership in the Association entails a self-evaluation study and a subsequent review by a visiting committee. Schools that have completed the evaluation process should develop a definitive program, including long-range planning, for the implementation of the recommendations. Schools yet to be evaluated should provide the time and effort essential to obtain optimum results.

10. Students and parents should be involved on various sub-committees in the self-evaluation study.

11. School committees should make provision for school personnel, particularly classroom teachers, to serve on visiting committees of the Association.

12. The Department of Education has a representative on all visiting committees and receives a copy of all evaluation reports from the New England Association. The Department of Education should review carefully all evaluation reports and should notify school committees when serious deficiencies in program and services in high schools in their school systems are indicated. School committees should be required to show cause why state funds should not be withheld until the deficiencies have been eliminated.

SCHOOL FINANCE

The Study has been focused on the high schools of this State, including their programs, services, administration, staff, and facilities. The findings and recommendations for improvements in the high schools reflect some of the fundamental problems of finance, such as the great range in the average expenditure per pupil among high schools, the wide gap between the schools with meager offerings and the ones with the broadest array of educational experiences, and other serious deterrents to the equality of educational opportunities for many high school students.

The Study staff examined considerable data on financial resources and other economic characteristics of the Commonwealth. They reviewed the recent studies on school finance, including The State Dollar and the Schools by Charlotte Ryan. These studies emphasize the various weaknesses and inadequacies in the Massachusetts' finance plan, as well as possible solutions.

Basic Problems

According to these recent studies and the data analyzed by the Study staff, some of the most crucial problems are:

1. Massachusetts ranks fourth in personal income per school-age child in the nation and slightly below the average expenditure per pupil among the states.

2. The Commonwealth ranks second among the fifty states in the proportion of financial support obtained from local tax sources. This heavy dependence on a variable local tax base is one of the most serious weaknesses of the present plan.

3. The State's variation in expenditure per pupil among its school districts is great in comparison with most states. The problem is not that some districts are too high but that too many are much too low.

4. Property assessed valuations vary widely in relation to true market values throughout the State.

5. The present general state aid formula is a percentage equalization type. Restrictions placed on its operation in recent years have limited the adequacy of funding particularly in districts of low wealth.

Needed Areas of Improvement

The findings of this Study and recommendations in several recent studies clearly point to the crucial characteristics of the finance program that are in need of improvement. They include:

1. The Commonwealth must effect greater equalization of assessed valuations of property on a state-wide basis.

2. Responsibility for planning, budgeting, and operating all phases of the educational enterprise, including school facilities and their maintenance, should rest with the school committee.

3. The people of the Commonwealth should decide how much financial support they want for their schools. Our best evidence is that schools are underfinanced in many districts. With modification, the present percentage equalizing formula for distributing state aid can accomplish any desired degree of equalization and level of support when used in conjunction with equalized property assessed valuations in the local districts. This formula can be adjusted to accommodate variable needs among districts and among pupils within districts with less dependence on categorical aids than in the past.

4. Most categorical aids (state and federal) should be restricted to use only in the early stages of developing special programs. Thereafter, they tend to create distortions and militate against the development of broad comprehensive programs. After serving their purpose of assisting in the development of special programs the categorical aids should be incorporated into the general equalization formula.

5. The people of the Commonwealth must decide the equalization level of support they want to ensure an adequate educational program in every school system. The evidence shows that many communities do not have the resources necessary to support a satisfactory program in their schools. Inequities and inadequacies in the present finance plan result in part from divergent purposes, some of which are in conflict. There is the issue between the need for greater equalization to support an adequate program and a community's authority to depend upon local tax effort to meet the educational needs of the schools.

6. To achieve needed adequacy and equity in the financing of the public schools, the issue of what is the reasonable balance between local and state support must be resolved. The State's share will have to be accelerated to the point of representing at least 50 percent of State and local funds. Consideration must be given to the federal government's participation in financing the schools to accomplish equity and adequacy among the states.

7. The finance plan should be designed with sufficient flexibility to serve future as well as present needs. All evidence points to the conclusion that the curriculum and instructional methods, educational media, facilities, and evaluation procedures will be modified and frequently changed in the future to meet the needs of the individual student and the demands of an ever-changing society. Flexibility in organizational and operational procedures, adaptability to new ideas and instructional practices, and incentives for planned improvements in programs and services should be recognized in the allocation of financial resources. Restrictions in resource allotments should be imposed only when minimum standards are not met and where local policies and procedures impede needed improvements in the schools.

8. One of the most fundamental needs facing the Commonwealth is a rational plan of school district organization to operate comprehensive high schools as economically and effectively as possible. This plan should provide financial aid to accelerate the establishment of comprehensive high schools.

CONSOLIDATION

Massachusetts, like other states, has gradually developed an educational system to guarantee the educational opportunities of each child and youth. However, Massachusetts has moved more slowly in this commitment than many states. It is one of five states where the number of school districts actually increased during a 23 year period from 1945 to 1968. Local responsibility for education still predominates, one result of which is the fact that the opportunity for a quality education that a child has still depends to a considerable degree on his place of residence. The State's variation in expenditures per pupil in school districts is among the highest in the nation.

On October 1, 1969, 92 or 30.2 percent of the 305 high schools in Massachusetts had an enrollment of 500 or fewer; 89 or 29.2 percent had between 501 and 1,000. The median enrollment in the 204 regular high schools was 1,041; in the 42 regional high schools it was 704; in the 50 vocational-technical and trade high schools it was 246; and in the nine regional vocational-technical high schools it was 436.

1. The problem is to retain the best aspects of local control by developing strong, efficient school districts which can provide competent lay and professional leadership and which can provide quality education throughout the Commonwealth.

2. Nearly all of the MACE Studies address themselves to the need for much further regionalization. The findings in this Study strongly support this position for two primary reasons: first, a commitment to assure every youth an equal opportunity for a quality education; and second, the conviction that this goal can best be realized in a widely comprehensive high school.

3. A great deficiency in school organization in Massachusetts is the absence of comprehensive high schools with appropriate and relevant programs for many thousand young people. Many schools are too small to be effective either as educational or economic units. High schools with limited enrollments and inadequate resources do not have the capacity to provide the excellence and diversity of educational opportunities that a truly comprehensive school can achieve.

4. Consolidation among many small school districts is necessary to establish school systems which can provide a complete educational program from kindergarten through the twelfth grade, including a comprehensive secondary school.

5. The General Court should adopt legislation requiring the State Board of Education to develop a state master plan which, when implemented, will eliminate through consolidation all economically inefficient and educationally inadequate school districts.

6. Educators and the public must support efforts to establish a structure of school districts which guarantees equal and adequate educational opportunities for all Massachusetts' pupils.

Chapter 5

PERSPECTIVES FOR THE HIGH SCHOOL OF THE FUTURE

Forecasting what the high school of the future will be like can be a precarious art in a rapidly changing world, yet change will certainly occur. The question is whether it will develop out of present practices or be as revolutionary as philosophical dreamers or some school critics predict. What seems apparent to the Study staff is that the high school of the future can, will, and, realistically, must evolve out of existing schools but only if intelligent leadership and imaginative planning are dedicated to the task of meeting the interests and needs of the many different youth who will be in the high schools of the Commonwealth. To achieve excellence for a diverse student population will require the combined efforts of the State Department of Education, school committees, professional organizations, colleges and universities, school systems, and, of course, schools themselves.

The Study staff found in its survey many significant practices of educational change. What is necessary, it feels, is a design and an innovative spirit that will assemble these practices into the schools of the future. It is the individual high school with its principal, staff, student body, and patrons that must be the action unit for change and improvement. Yet, the development of the comprehensive high school of the future can be greatly facilitated by a strengthened and effective State Department of Education. The Department should provide competent leadership and appropriate services, several of which are recommended in this report, in planning and effecting improvements in secondary education. The Department should have professional personnel and adequate resources to help high schools achieve higher levels of quality, relevance, and comprehensiveness.

Constant study, planned change, and evaluation are the pivots of improvement which must come about if the public secondary school is to serve the needs and interests of its diverse student body - those who need the academic background for college and those who desire sound vocational training necessary for success in the job market. For all, the school must continue to provide general education for responsible adulthood and prepare students to cope with changes that will always permeate society.

The recommendations of this report are essential guidelines which, in combination, provide a design for change and improvement for the high schools of the future in Massachusetts. To chart the course for what the high school ought to do, the Study staff presents a number of priorities that it sees as essential characteristics of the school of the future. What is important is that a school have a vision of an over-all plan of what it hopes to become. This ultimate goal is essential in order to avoid change without benefit of design.

Philosophy and Objectives

Each school will have a definite philosophy and a set of objectives that have been evolved cooperatively with the community to serve the unique needs and characteristics of the particular student body and of society as it exists and is likely to exist. Each faculty will have developed specific objectives in each discipline and for inter-disciplines in order to translate operationally the goals of each subject area.

The Comprehensive High School

Each school will be comprehensive in its organization and program because it is this type of school that can meet the educational, vocational, and avocational needs of all youth in a community most effectively and economically. Such a school will offer a broad program of general education for all its students, an excellent academic program for those who are college bound, a quality vocational program for terminal students, and an appropriate program of special education for those with handicaps and special deficiencies.

Organization and Administration

Each school will be organized and administered to focus on the needs of the individual student. With the principal as the educational leader, each faculty will share in individual and cooperative effort with students, parents, and other citizens to improve educational programs and services and to develop and implement school policies and procedures.

To give students more opportunities for self-direction and responsibility, each school will be released from the lockstep of time and space to include flexible scheduling, independent study, work-experience programs, community-service programs, an extended school day, a year-round program, performance-criteria curricula, and an open campus.

Staff

Each school will enhance teacher effectiveness and strive continuously to realize improved professionalization by differentiated teaching assignments, use of instructional assistants, paraprofessionals, and other non-professional personnel, team teaching, and in-service programs. The school will have greater autonomy and responsibility, particularly in curriculum and instruction. The principal and his staff will share responsibility for effecting curricular change and instructional innovations.

Curriculum

Each school will have a program of studies important to each student's present needs and aspirations, and to his future, whether it be a job immediately after high school, college entry, further vocational training, or combined work-study. The school will help students develop their potentials as human beings and prepare them to be effective citizens. Curricula will be much more open than they have been traditionally and will include mini-courses in all academic and non-academic areas, many more multi-disciplinary programs, and courses that involve community agencies and services to them. The high school's curriculum will be increasingly viewed as an extension of the elementary and middle school with articulation between the levels of paramount importance. The school will have continuous evaluation of its program.

Educational Media Program

Each school will have the facilities, resources, and services essential to an effective media program, staffed by specialists well prepared in library science, audio-visual education, and curriculum and instruction. With each school emphasizing individual instruction, students will make increased use of both print and non-print materials in resource centers and libraries, which will be equipped with the latest technological equipment and materials to expedite their use.

Guidance Services

Each school will have a guidance and counseling program which functions as an integral part of the educational program. The school will provide balanced and comprehensive services including individual and group counseling, educational and vocational planning, placement, referral, and follow-up activities. The program will give systematic aid to each student with his particular problems and needs and assist him in recognizing and achieving his potential.

Student Involvement

The most far-reaching and penetrating opportunity for improvement in the high school of the future rests in a renewed emphasis upon the optimum development of each student's unique capabilities and potentialities. Schools will increasingly involve their students in the basic elements of education - to observe, to reflect, to think, and to act.

School Activities Program

Each school will have an activities program of diversity and balance in which the students themselves accept responsibility, under professional leadership, for its development, organization, and supervision, and may pursue their interests in depth. The program will involve many community-service activities as an extension of the school into the community.

School-Community Relations

Each school will have a systematic and effective program of communication with its various publics. The program will utilize a wide variety of communication media, disseminate information of interest and concern to patrons, and provide the public an opportunity to know, understand, and to influence the development and direction of the school.

School Facilities

Each school will have facilities, consisting of the site, buildings, equipment, and services, which will provide a wholesome physical environment conducive to operational efficiency and teaching and learning effectiveness. Spaces will be flexible and adaptable to changes in program, a wide variety of instructional groupings, and extensive community use. The school building will continue to be the operational base for the educational program, but the total community will increasingly function as an extension of the learning resources available to students.

Evaluation

Each school will make increased use of evaluative techniques in a continuing comprehensive program to help students assess their own learning on measurable objectives, but also to enable the schools themselves to analyze their needs for change and improvement. Because the public will increasingly hold educators accountable for student achievement and the wise use of financial resources, the school faculty will continually assess its goals and objectives and evaluate the extent to which they are being achieved.

School Finances

The Commonwealth's support level for elementary and secondary education will be at least 50 percent to assure the ability of all school districts to support programs and services at a level that will provide equality of educational opportunity for all children and youth. The allocation of school finances, from local, state, and federal sources, will provide flexibility in operational practices, adaptability to new instructional content and methods, and incentives for planned improvements in programs and services.

Consolidation

Massachusetts will effect a school district organization that will consist of school systems of sufficient enrollment and adequate resources to develop unified educational programs from the kindergarten through the twelfth grade. Each system will include one or more comprehensive high schools. The structure of school districts will facilitate the development of programs and services that will guarantee equal and adequate educational opportunities for all children and youth in the Commonwealth.

Chapter 6

POSITION PAPERS PRESENTED AT REGIONAL CONFERENCES

REGIONAL CONFERENCE

A Study of the Comprehensive High School in Massachusetts

SILVER LAKE REGIONAL HIGH SCHOOL
Kingston, Massachusetts

Tuesday, March 31, 1970

AGENDA

9:30 - 10:00 Coffee and Registration

10:00 - 10:25 Report of Study - Dr. William C. Gaige and Dr. Lloyd S. Michael

10:25 - 10:50 Discussion about the Study

10:50 - 11:40 Position Paper - Dr. Charles W. Sanford

Ph.D. University of Illinois; Professor of Education and University Dean of Admissions and Records, Emeritus; Principal, University High School, University of Illinois, 1932-43; Director, Illinois Curriculum Program, 1947-54; Associate Dean, College of Education, University of Illinois, 1949-56; Chairman of General Motors National Scholarship Committee and of various committees of the National Association of Secondary School Principals, The Illinois Association of Secondary School Principals, and active in projects of the College Entrance Examination Board; editor, author and co-author of numerous educational publications.

SUBJECT: "PROVISIONS FOR TYPES OF ARTICULATION IN THE COMPREHENSIVE HIGH SCHOOL."

11:40 - 12:25 Reactions - Panel, Audience

12:35 - 1:20 Luncheon

1:20 - 2:10 Position Paper - Dr. Rupert N. Evans

Ph.D. Purdue University, Professor of Vocational and Technical Education, University of Illinois; Associate Dean and Dean, College of Education, University of Illinois, 1959-69, former Chairman, Research Committee, American Vocational Association; former member, President's Advisory Council on Vocational Education; past President, National Association of Industrial Teachers Educators; Chairman, Illinois Vocational Education Advisory Council; author and co-author of numerous educational publications.

SUBJECT: "VOCATIONAL EDUCATION IN THE COMPREHENSIVE HIGH SCHOOL."

2:10 - 3:00	Reactions - Panel, Audience
3:00 - 3:10	Summary

Provisions for Types of Articulation in the Comprehensive High School

by

Charles W. Sanford

The Study of the Comprehensive High School in Massachusetts is appropriately focusing a considerable amount of attention upon various types of articulation. The rationale, I assume, is that comprehensiveness, high quality, and timely relevance in the instructional program and services of the school are dependent, in no small measure, upon thoroughgoing provisions for articulation. Articulation, coordination, and cooperation are integrally related and focus upon the provision of an orderly continuum of educational experiences.

In the initial data-collecting instrument for the Study the question was asked, in each subject area section, "How effective are provisions for articulation...With feeder schools, Within a department of the school, Within a department of the high schools in the district, Among departments in the school, With postsecondary educational institutions, and With occupations following school"? The respondent was requested to indicate the degree of effectiveness of each of these types of articulation as "Very effective, Effective, Ineffective, No provisions, or Not Applicable."

In the section of the instrument which pertained to all subject areas, the question on articulation was stated, "Taking into consideration the entire program of the school, how effective are provisions for the types of articulation listed below?" The same types were listed, i.e., With feeder schools, With postsecondary educational institutions, and so on, and the same degrees of effectiveness were requested, i.e., "Very effective," "Effective," and so on.

While the data for the subject areas are not available at this time, I can report that on the last question, "Taking into consideration the entire program of the school..." 29% of the respondents reported that articulation with feeder schools was "Very effective," 55% reported that articulation with feeder schools was "Effective," 13% reported it was "Ineffective" and 3% reported the question was "Not applicable"; 65% reported that articulation within a department of the school was "Very effective," and 35% reported that such articulation was "Effective"; 3% reported that articulation within a department of the high schools in the district was "Very effective," 23% reported that articulation within a department of the high schools in the district was "Effective," 6% reported it was "Ineffective," 3% that there were "No provisions," and 64% that this type of articulation was "Not applicable"; 39% reported that articulation among departments in the school was "Very effective," 58% that articulation among departments was "Effective," 3% that it was "Ineffective"; 26% reported that articulation with postsecondary educational institutions was "Very effective," 65% that it was "Effective," 6% that there were "No provisions," and 3% that the item was "Not applicable"; 5% reported that articulation with occupations following school was "Very effective," 67% that articulation with occupations following school was "Effective," 19% that it was "Ineffective," and 9% that there were "No provisions."

It is quite possible that the term "articulation" was not interpreted in the same manner by all respondents. Our visits to schools support this possibility. Hence, care must be exercised in the interpretation of these data.

A superior program of articulation of any of the types cited--with feeder schools, with postsecondary educational institutions, and so on--consists of many parts, appropriately related and comprehensive in combination. In general terms, articulation means bridging whatever gaps there may be between feeder schools and the high school, among the various parts of a department of the school, within a department of the high schools in the district, among departments in the school, between the high school and postsecondary educational institutions, and between the high school and occupations following school. In specific terms, articulation refers to the identification of specific problems which students face in their transition from one educational level to the next higher level, or in programs they are presently taking as they are moved to other sections of the same subject in the same school, or as they change to another school in the same district, or move to another district. Articulation also refers to the formulation of definite steps which the schools involved should take to help students in the transitions cited.

What are some of the parts of a comprehensive program of articulation? Since time does not permit an analysis of all of the types and since a substantial proportion of the graduates of Massachusetts high schools enter a 2- or 4-year college or university, I shall focus primary, but not exclusive, attention on this type of articulation. Moreover, I hope that you will agree that practically all of my comments apply in varying degrees to all types of articulation.

This may be an appropriate place to recognize the fact that most high schools are offering preparation for college which is far superior to that which was offered 35 or 40 years ago. All of our evidence indicates that this is true. Moreover, the high schools have made excellent progress in refining the assessment of students' capabilities and interests so that those who should attend college are encouraged to do so, and so that those who should participate in another form of postsecondary education are encouraged to do so.

Nevertheless, the fact remains that we still have much to do to improve our procedures to help students and their parents reach appropriate decisions.

1. The first part of a superior program of school-college articulation is an understanding by college people of the role and problems of secondary schools and an understanding by secondary school people of the role and problems of colleges and universities. A few, but far too few, colleges and high schools are doing a great deal to increase such understanding. The usual procedure is through a network of conferences between college and school personnel to review together their roles and problems. College personnel are beginning to understand that high schools must accept all educable students and that their accountability for such students extends far beyond preparation for CEEB examinations. High school personnel are beginning to understand that colleges and universities must prepare architects, civil engineers, doctors, and many other professional people in a given period of time and that they are held strictly accountable for the preparation of top-notch graduates who will be successful in obtaining positions. The complete understanding of the implications of these somewhat over-simplified illustrations, and of others with which you are familiar, point to cooperative efforts by the colleges and schools in the interest of helping the students concerned.

2. A second part of articulation is coordination of subject-matter offered in college-preparatory courses with that offered in the colleges. Such coordination involves, in each subject-matter area studied, a cooperative objective examination of a common problem. This necessitates well-structured meetings of high school and college English teachers, of high school and college mathematics teachers, and so on to analyze and agree upon the subject-matter which is going to be emphasized in college-preparatory courses in the high school and the subject-matter which is going to be taught in beginning courses in college. Since the graduates of a given high school attend a number of colleges and universities, such meetings should be on a statewide basis with the various colleges represented.

Your response may be that successful scores on the College Boards are adequate. If so, what happens to those who wish to attend a community college with an open-door policy or a 4-year college which does not require College Boards?

A number of high schools in the Commonwealth reported that intensive programs were being established to strengthen articulation with feeder schools. Such programs should yield high dividends.

3. A third part of articulation is coordination of testing and counseling programs.

In each state, in the decade ahead, increasingly accurate data should be obtained, through sophisticated procedures, for reaching decisions concerning students' qualifications and their admission to various types of institutions. An admissions processing center and data bank should be organized in each state to provide the basic information that every public institution needs to determine the qualifications of applicants, including as a minimum, high school percentile rank, test scores, and the records of past successes of students from High School X or College Y in College A. Perhaps private institutions will wish to use this center. We hope they will. Participating public and private institutions may want supplementary data that they can obtain independently of the center. The processing center and data bank, administered by the state agency in charge of statewide planning, should provide a level of expertise and data to institutions that could not otherwise afford them. It would enable the state to obtain an accurate picture, in terms of common definitions, for the entire state. The potential of such statewide center and bank goes far beyond the values indicated. The important point is that each institution would have available the most accurate data that statistical procedures and good machines can produce for use in making judgments concerning the students to be admitted to a given institution. And the state, through its agency for viewing statewide provisions and needs, would have accurate and reliable statewide data for its uses.

A wealth of data is now being made available on student characteristics by such studies as the one initiated in the fall of 1966 by the American Council on Education, which involved a survey of entering freshmen, the Student Profile Section of the American College Test, and the SCOPE study (School to College: Opportunities for Postsecondary Education) sponsored by the CEEB and devoted to student decision-making and its outcomes. Massachusetts is, as many of you know, participating in the SCOPE study.

Similarly, increasingly accurate data are needed in most high schools to help counselors, students, and parents reach decisions concerning the courses and curricula to follow. I would guess that such information would be particularly important in decisions regarding admission to vocational-technical schools.

We found, in our visits to the high schools in Massachusetts, a desirable ratio in numerous schools of one counselor for 300-350 students. The attention of counselors seems to be focused primarily on preparation for college and college admission with little attention to vocational career planning and personal counseling. Few complete follow-up studies were found which revealed the status of graduates several years after graduation.

Perhaps you have noted the February, 1970 release on "Facts About Education in Massachusetts," prepared by the Division of Research and Development, Massachusetts Department of Education. It presented follow-up data, reported by high school principals, for 1967-68 graduates. The data indicated that 32% of the graduates were attending 4-year colleges, 15% were attending 2-year colleges, 2% were in nurses training, 9% were in other postsecondary institutions, 7% were in the military, 24% were working, and 11% were classified as "other."

Perhaps we should stop at this point and ask where principals, teachers, and counselors are going to find the time to perform the additional tasks suggested--and others to be suggested. I do not know of any one answer which would be equally applicable in all schools. Released time during the school year is one possibility, flexible scheduling is another possibility, the use of auxiliary personnel or teaching assistants is a possibility, the employment of a number of teachers during the summer months is still another possibility. You can name others. The important point is that if high priority is placed upon a superior program of articulation, the time to develop and implement it must be scheduled.

4. Another integral part of articulation is coordination of programs which will not only encourage superior students to complete high school and attend college but which will interest and challenge them to superior work. Numerous plans have been tried to achieve such coordination. A very promising plan is the Advanced Placement Program sponsored by the CEEB. This Program provides, as many of you know, for superior high school students to take college level courses in high school. Many colleges and universities accept credit earned through this Program when the students have presented marks established by the colleges and universities on examinations administered by the CEEB. Also, such students have been given

advanced placement. Another means of encouraging superior students includes the use of some of the "new" subjects such as those available in Biology, Chemistry, Physics, and Mathematics. And, of course, numerous teachers develop independently accelerated and enrichment materials.

5. Another aspect of articulation is concerned with the coordination of efforts, beginning in the elementary grades, to help students develop sound study and work habits, and then to help them strengthen these as they proceed with their education.

6. A sixth part of a superior program of articulation is concerned with research. At the high school - college levels, data from the SCOPE study, the American Council on Education studies, the American College Testing Program studies, and others, are extremely helpful. Institutional studies concerned with the prediction of scholastic achievement of students from a given high school, of follow-up through college, of the relationship between test scores and marks earned in given courses, of the relationships of high school percentile rank, test scores, and grade point average--and many others--are needed by both the high schools and the colleges. Similar studies at the feeder-schools-high school levels should be equally helpful. Also, they should be helpful at the vocational-technical school-occupation levels. The studies provide assurance that articulation is effective or they point to areas which need to be strengthened. And they provide evidence which is essential in the continuous improvement of the curriculum.

Now let us turn to a number of points concerned with the implementation of a program of articulation--with feeder schools, within a department of the school, within a department of the high schools in the district, among departments in the school, with postsecondary educational institutions, and with occupations following school.

1. The substance of the articulation program stems from the school's statement of objectives and philosophy.

2. A definitive and highly systematized program must obtain to achieve superior articulation. Many, perhaps most, of the high schools in Massachusetts have the departmental form of organization. The principal and the department heads occupy a central position in, and afford leadership to, the articulation program.

3. All of the personnel who are concerned with the implementation of a given type of articulation should participate in its development and in its continuous improvement. Thus, appropriate school personnel and employers should work together in articulation concerned with occupations following school. Mathematics

teachers should cooperate with the teachers of mathematics in both feeder schools and in postsecondary institutions. And teachers in other disciplines should do likewise.

This point could be extended many times by observing that the high school of the future must utilize all of the resources available to it. There are rich resources in most communities, some of them untapped by the school. And there are many resources in the region and the state. The job of the superior high school is immense. It must capitalize upon all of the help it can get.

4. Guidelines are needed by every high school to give direction to the various types of the articulation program. I refer to statements similar to those in the publication "Guidelines for Improving Articulation Between Junior and Senior Colleges," prepared by a Joint Committee of the Association of American Colleges, the American Association of Junior Colleges, and the American Association of Collegiate Registrars and Admissions Officers. Guidelines are presented concerning admissions, evaluation of transfer courses, curriculum planning, advising, counseling, and other student personnel services, and articulation programs. Such guidelines would spell out, in addition to the guidelines, issues or problems, suggested procedures, and the personnel to be involved.

5. At the statewide level, I should like to have, as a minimum, a committee representative of high school and college people to cooperate in affording leadership which would strengthen--continuously and systematically--school-college relations.

Vocational Education in the Comprehensive High School

by

Rupert N. Evans

Ancient alchemists spent their lives in a vain search for a substance which would transform all types of materials into gold. They called this elusive substance the "philosophers' stone."

For as long as there have been educators, they have searched for the educational equivalent of the philosophers' stone: a single curriculum which would transform students of all types into model citizens, model family members, and model workers. The educators have been no more successful in their quest than the alchemists were, but the search continues.

In the meantime, school superintendents and principals, being practical persons, have been faced with the problem of what to do with students who have different capabilities, interests, and aspirations. In this country, the answer almost everywhere has been to develop three distinct secondary school curricula and to channel students into one of the three.

Three High School Curricula

The college preparatory curriculum is slightly misnamed, since it prepares students only for institutions offering baccalaureate and higher degrees (it does not prepare students for vocational and technical curricula in community colleges). It enrolls about half of the male high school students, but only slightly more than one-third of the females. If its graduates actually attend college for a significant length of time, they do rather well in life. If they do not attend college (and about 30 percent do not), they are in nearly as bad shape as graduates of the general curriculum.

The general curriculum is aptly defined by Project TALENT: "does not necessarily prepare you for either college or for work," but consists of courses required for graduation plus "subjects that you like." It enrolls less than a fourth of the male students, and less than a fifth of the females. On every measure of success, its graduates rank last. Indeed, its dropouts do better than its graduates.

The vocational curricula include programs to prepare students for employment or for post-secondary schools of various types. Nationally, they enroll forty percent of the females and over twenty percent of the males, but variations from state to state are great. According to the state plan for vocational education, 13 percent of Massachusetts secondary school students are enrolled in vocational education curricula.

Schaefer and Kaufman quote the Massachusetts Advisory Council on Education Newsletter as saying that less than 25 percent of the students are enrolled in vocational programs. Since business education is by far the largest vocational program in the general high school, and since less than 8 percent of students attend federally aided vocational high schools, the proportion of males taking vocational education in Massachusetts secondary schools must be near the bottom of the 50 states. Apparently the general curriculum is much larger in Massachusetts than in the nation as a whole.

All three curricula devote substantial amounts of time to general education. Both the vocational and college preparatory curricula devote approximately three-fourths of grades nine through twelve to general education. This appears to be a reasonable time allocation. The general curriculum purports to be entirely comprised of general education courses. If this were true, the poor results achieved would be a strong indictment of general education. It is more likely that the combination of watered-down content, lack of student motivation, and teachers' lack of expectation of student performance combine to insure that little education of any type occurs in this curriculum.

Project TALENT asked ninth grade students what curriculum they wanted. Half said they wanted the college preparatory curriculum and half said they wanted a vocational curriculum. Half of the students were admitted to the college preparatory curriculum; one-fourth were accepted into vocational education; but one-fourth were placed in the general curriculum, which they didn't want.

Characteristics of Secondary School Students by Curricula

Project TALENT data show clearly that students in the three principal high school curricula rank as follows on both socio-economic status and verbal intelligence: 1. College preparatory curriculum; 2. General curriculum; 3. Vocational curricula. Socio-economic status and verbal intelligence are two of our best predictors of high school graduation and post-secondary school attendance. Yet two-thirds of high school dropouts come from the general curriculum (though it enrolls less than 25 percent of the students), and vocational curriculum graduates are more likely to attend post-secondary schools than are general curriculum graduates. Project TALENT also shows clearly that two-thirds of high school vocational students are female. Most major in business and commercial curricula, though distributive education and health occupations are growing more rapidly. One of the most common misconceptions about vocational education is the notion that it is a program for males.

The rate of youth unemployment (as a proportion of general unemployment) has been growing steadily for at least the past forty years.

It now averages 3½ times the general unemployment rate, and the most recent figure for black females age 16-19 is 48 percent. Even this is a conservative estimate, since a person can be counted as unemployed only if he says he is looking for work. Many youth have stopped looking and are listed as "out of the labor force." Unemployment rates for untrained youth are sure to continue to rise.

If we consider the 50 percent of high school graduates who do not attend college, the graduates of the three curricula rank as follows on unemployment rate, job satisfaction, earnings per year, length of time unemployed, and "quit rate" (proportion of workers quitting each month): vocational graduates have the best records, college preparatory graduates are intermediate, and general curriculum graduates almost always have the poorest records. This is an almost complete inversion from what one would expect on the basis of the verbal intelligence and socio-economic status of the students.

Socio-economic Segregation

All of the above data are based on national studies. Nationally, the great majority of secondary school vocational students are enrolled in high schools which are more or less comprehensive. The results generally have been excellent. Studies of vocational education in large city schools have not been as encouraging.

In large cities, and in parts of the north-eastern United States, the predominant pattern has been the creation of separate vocational high schools. The result has not always been bad. Indeed, it can be argued that some large "vocational" schools are the only genuinely comprehensive high schools which exist in this country. Some such schools offer a strong program of general education, send a large proportion of their students to higher education, have no watered-down general curriculum, offer a wide range of vocational choices, and are prestigious enough to attract students from every socio-economic level.

This last point is extremely important. In an unsophisticated way, vocational educators long have sensed that it is educationally bad to operate a "dumping ground." The Coleman report and other studies of the effect of socio-economic segregation provide part of the answer. All of the evidence suggests that when students of low socio-economic status predominate, educational achievement suffers. Many separate vocational schools are populated almost entirely by such students, and the record indicates that both academic and vocational achievement suffer in such a situation. This is the primary reason why separate vocational schools are being closed in several large cities.

One can, of course, have socio-economic segregation within a "comprehensive" high school. When all vocational classes are in a separate building or wing of a building, when vocational students are assigned to general education classes attended only by other vocational students (as in the alternate week schedule which is used widely in Massachusetts), when the band is scheduled at a time which prohibits vocational students from participating, when students find it difficult, practically, to transfer from one curriculum to another, and when vocational and academic teachers always eat at separate lunch tables, then socio-economic segregation is occurring. The result will be almost as bad or same as if the two schools were miles apart. The only redeeming feature is that those athletic teams which the public pays to see almost always practice socio-economic integration.

There is no evidence to suggest that socio-economic segregation is educationally desirable. Instead, the evidence seems clear that socio-economic segregation is bad in both academic and vocational education. Common sense suggests the same answer. Why should we, during school, segregate students who will have to work together and live together for the rest of their lives?

Objectives of Vocational Education

Vocational education in the public schools has three objectives: 1. to meet the manpower needs of the nation; 2. to increase the options available to individual students; and 3. to lend intelligibility to general education. The first of these two objectives is implicit in many college preparatory programs. The second is frequently cited as a goal of general education. Perhaps only the last of these three objectives is unique to a non-general education program.

If we are to meet the manpower needs of the nation, we must be concerned with both the short-term and long-term needs. Vocational education which is provided through on-the-job training and through private trade schools may do an excellent job of meeting short-term needs. Since general education and vocational education are both required to meet longer term needs, and since OJT and private trade schools rarely combine general and vocational education, these types of training rarely have long term value. Similar effects may be expected from public school vocational programs which provide little general education or which water-down the general education until it is meaningless. A genuinely comprehensive high school will not let this occur.

If we are to increase the options available to individual students, again the truly comprehensive high school seems the best answer. Certainly the general high schools of most states are not the answer. Typically they offer a college preparatory course which meets the needs of some students very well. They offer a general curriculum which must be condemned in the strongest possible terms, and they offer one or two vocational programs. (In Massachusetts, the one common vocational course is business education. In my state, it is production agriculture). This is hardly the educational regimen for increasing individual options of students.

One solution would be to discover a single educational program which genuinely meets the needs of all students. I repeat that no one has developed such an educational panacea.

Another solution, which does work, is to provide vocational offerings, which cover a wide range of occupational clusters, and are closely tied to strong general education offerings. The only real obstacle to such a program is that it requires a relatively large school (roughly 2,000 students or more) in a community with a wide variety of types of employment (so that broad-scale part-time cooperative education programs are feasible).

In a few parts of the nation, the population is too sparse to permit students to commute to a large comprehensive school. Until transportation facilities improve markedly, a residential high school seems to be the most feasible answer to this geographical problem. In most parts of our country, however, the obstacle is not geography, but local pride and selfishness which prevents school consolidation.

The third objective of vocational education, to lend intelligibility to general education, is too seldom recognized as important. Some students love learning for its own sake. Others dutifully learn whatever the teacher or their peers say is important. But a large, and perhaps a growing segment of the school population demands relevance in education. If education is not relevant, it can not really be general education. But this is not enough. The student must be aware that it is relevant.

Vocational education provides, time and again, the first occasion for a student to see the need for mathematics, for communication skills, or even for reading. For maximum effectiveness, this awareness should come before or concurrently with enrollment in general education courses. Too often it occurs too late for best utility. This suggests that education to promote awareness of the world of work should occur early in school, and that early occupational choice should not be discouraged so long as a change of choice can be made at any time. Moreover, it suggests that remedial courses should be available at any age for students who become aware of the need for remediation. And finally, it suggests that vocational and general education should always be offered concurrently.

Area or Regional Vocational Schools

Many state plans for vocational education provide special incentives for the establishment of area or regional vocational schools. The motivations for providing these incentives are varied. Often the motivation is a belief that the general high school is not interested in vocational education and is unwilling to expand it except for programs for white collar occupations such as those in business education. If the Advisory Committee on Schaefer-Kaufman Recommendations is correct, in Massachusetts it is "cheaper for the local district to operate approved vocational education programs than traditional high school programs." Thus finance must not be a major problem. Apparently, willingness to abandon some parts of the discredited general curriculum is a problem.

Motivations for accepting federal and state funds for area vocational schools are also varied. Often the motive is to provide a type of education which students want and need, but which the general school faculty does not want to provide. One reason for sending the state money to the area school is that the general school does not want to accept state dictation which sometimes accompanies state money.

A second motivation for promoting an area vocational school is a last-ditch attempt to preserve a group of small, inefficient high schools by telling the school patrons that the area school will provide the services which the small high schools cannot provide. Socioeconomic segregation of students is a high price to pay for retaining small schools.

Sometimes the motivation comes from a recognition that immediate school consolidation is politically impossible, and that consolidation is more likely to occur when the public realizes what they have been missing. This motivation seems more defensible than the two types of motivation mentioned earlier.

For the foreseeable future we will need area school organizations to provide certain services to handicapped students, certain library services, and vocational education in occupational fields for which there is a small but persistent demand. For many occupations and in many localities, however, this latter need can better be met through part-time cooperative education programs.

Part-time Cooperative Education

For many, many years, part-time cooperative education programs have been widely accepted in higher education and in secondary schools. Only 15 high schools in Massachusetts now operate such programs. Since the state plan refers to "its presently large cooperative education programs," an appropriate question would seem to be, "Large compared to what?" The state plan calls for expansion of these programs to be restricted almost entirely to serving the disadvantaged and the handicapped.

Part-time cooperative programs have excellent placement records, are far more flexible than in-school programs in meeting changing employment demands, and provide opportunities for vocational education in occupations for which it would be impossible to find enough students to fill a standard class. They can be operated very efficiently by comprehensive high schools in medium and large sized communities.

Placement Services

Every high school operates a large-scale placement service for its graduates who want to attend college. Innumerable tests are given, forms completed, and interviews arranged. Some high schools even follow up to see how well their students are doing in college, and make adjustments in the high school program as a result of this feedback.

Every high school should exert a proportionate amount of time, money and energy in arranging initial job placements for its students who go to work instead of to college. Data indicate clearly that feedback from such placement work markedly improves the vocational program.

Teacher Education

Vocational education works best in a comprehensive high school if teacher education programs prepare vocational teachers who believe in the comprehensive high school and are well enough prepared to be accepted by and to influence their fellow teachers. Two hundred forty clock hours of preparation and no contact with teachers in training in academic subjects does not seem to be the answer. At the same time, colleges must recognize that vocational teachers have knowledges and skills in their fields of specialization which far exceed those which can be acquired in a thirty-semester hour major in an academic field.

Similarly, administrators of vocational education must be prepared in ways which point out the importance of relating vocational education to the entire school program. No type of school administration can be learned solely on the job. The shortage of skilled administrators in vocational education is one of the major roadblocks to more effective program development in this field.

On the Postponement of Vocational Education

Detractors of vocational education generally suggest that it be postponed. Postponement is justified on one or both of two grounds: there is too much important general education to be learned in twelve years of schooling, or youth should not be forced to make an early occupation choice.

The first objection is best answered on the ground that one of the principal objectives of vocational education is to make general education intelligible to its students. If it succeeds in this goal, general education course content will be more efficiently learned by vocational students. Moreover, they are more likely to be in school to learn this content instead of dropping out of school. Two-thirds of high school dropouts come from the one high school curriculum (the general curriculum) which provides no goals to students.

The second objection is a bit more difficult to answer. At the turn of the century, most students made a vocational choice at the end of elementary school when they were two years younger, and far less mature physically than the student of today who is asked to choose a vocational course in high school. But this is no justification. The only real answer is that vocational education offers a chance for a student to try out, and to change his occupational objective with far less penalty than would be incurred if he made the change in the labor market. If we mean this, and I hope we do, then some changes have to be made in our schools. Now, the vocational student who changes occupational goals at the end of his junior year is penalized, often severely. This must be remedied.

But the simplest argument against postponement is the practical one of postponement to what. High school dropout rates are decreasing slowly or not at all. Are these dropouts to be told to go to junior college? If all vocational education were to be offered in post-secondary institutions, where would we find the places to put the students? If every junior college were to devote fifty percent of its budget to vocational education, and if the number of junior colleges were increased five-fold, the entire nation could accommodate no more than a small fraction of the students to whom we are now giving vocational education in secondary schools.

Summary

Vocational education is best offered in a comprehensive institution, whether that institution be a secondary or post-secondary institution. This is true, because separation of students according to curriculum results in socio-economic segregation, and such segregation results in inferior education. It is also true, because vocational education has three objectives, only one of which can be achieved reasonably well in a segregated school.

Vocational education can and must be offered in high schools. This is true, because it motivates a sizeable proportion of pupils to learn other school subjects, it eases the transition from school to work, and even if it were desirable to postpone vocational education until after high school graduation, post-secondary institutions could accommodate a very small proportion of the students who need vocational education.

Vocational education must expand in the secondary school. It and the college preparatory program must destroy the general curriculum, and remain as our two basic curricula until we can find the philosophers' stone of the single curriculum which meets the needs of all students. If general educators, vocational educators, and college preparatory educators all work at lending intelligibility to general education, we may have something better than a panacea: we may have education programs which meet the needs of all of our students.

REGIONAL CONFERENCE

A Study of the Comprehensive High School in Massachusetts

AMHERST-PELHAM REGIONAL HIGH SCHOOL
Amherst, Massachusetts

Friday, April 3, 1970

AGENDA

9:30 - 10:00 Coffee and Registration

10:00 - 10:30 Report of Study - Dr. William C. Gaige and Dr. Lloyd S. Michael

10:30 - 11:00 Discussion about the Study

11:00 - 11:50 Position Paper - Dr. Harold H. Corbin, Jr.

B. A. Yale University; L.H.D. Lake Forest College; Headmaster, Lake Forest Academy, Lake Forest, Illinois 1951-69, Chairman, English Department, Salisbury School, Salisbury, Connecticut 1942-51; past President, Independent Schools Association of Greater Chicago and Independent Schools Association of the Central States; Trustee on Masters School and Salisbury School; member, Environmental Council of the Housatonic Chapter of the National Audubon Society and is active in other local ecological organizations.

SUBJECT: "OUR HIGH SCHOOLS AND THE ENVIRONMENTAL IMPERATIVE."

11:50 - 12:35 Reactions - Panel, Audience

12:45 - 1:30 Luncheon

1:30 - 2:20 Position Paper - Dr. Charles F. Schuller and and Dr. Paul W. F. Witt

DR. CHARLES F. SCHULLER: Ph.D. University of Wisconsin; Director of the Instructional Media Center and Professor of Education, Michigan State University; organizer and first President of the Educational Media Council; President, Department of Audiovisual Instruction, NEA, 1958-59; Chairman, DAVI Commission on Educational Facilities Planning, 1965-67; extensive service as consultant and speaker in instructional development and technology.

DR. PAUL W. F. WITT: Ed.D. Columbia University; Professor of Education and Head of Instructional Development Program, Instructional Media Center, Michigan State University; Professor of Audiovisual and Curriculum, Teachers College, Columbia University 1951-68; editor, author and co-author of numerous educational publications; Past President, Department of Audiovisual Instruction, NEA.

SUBJECT: "EDUCATIONAL TECHNOLOGY IN THE SECONDARY SCHOOL--NOW AND IN THE FUTURE."

2:20 - 3:10 Reactions - Panel, Audience

3:10 - 3:20 Summary

Our High Schools and the Environmental Imperative

by

Harold H. Corbin, Jr.

Six years ago, when I began to be concerned about environmental problems and their relation to education, I had trouble finding anybody to talk to. Few people knew how to spell ecology, let alone define it. During the intervening time, especially the past six months, the topic has exploded. Somebody told our President and the Congress about the crisis in the environment, and lo, the word was loaded--safer than motherhood, more universal than fatherhood, fresh, frightening, and fraught with political hay. The college students, our new omniscenti, realized this was a subject even their presidents might understand. And the media, catching the hot scent of public indignation and genuine doom in the offing, closed in like clamorous beagles; and so, before the decade was six months old, the theme and travail of the 70's were set beyond cavil or change. My concern is now epidemic. I only hope all the verbalizing and armwaving, including my own, doesn't diminish the real thrust of an aroused people toward environmental reclamation.

In any case I am unalterably convinced that the struggle for this reclamation and the sane future management of our environment must be pressed now, with all the intelligence and vigor we can summon, and on all fronts simultaneously. One of the key fronts, of course, is the education of our young. If our high schools are searching for relevance (and most of them are), new cultural and intellectual orientations, new rationales of public support and involvement, and new modes of human service, I urge them to renew their historic initiative, actively to seek the risks of creative innovation, and to gird our young for the inevitable tests of hope and fortitude and sacrifice that are already upon them in the environmental crisis. This one sentence bears the burden of my talk today; indeed if I said only that, and then turned my time over to reports from the floor on what your schools are doing -- and I know many Massachusetts schools have exciting programs under way -- you all would be better served. But you're not that lucky, so I'm going to keep on talking.

First let us take a backward glance. Although some of my theologian friends take issue with my assertion, it seems to me that the eighth psalm and our historic frontier psychology combine to reveal a major cause of our present dilemma. Man, the arrogant master of his world and the life therein, seemed to receive the anthropocentric endorsement of Holy Writ as David sings "What is man, that thou art mindful of him? And the son of man that thou visitest him? For thou has made him a little lower than the angels and hast crowned him with glory and honor. Thou madest him to have dominion over the works of thy hands; thou has put all things under his feet: all sheep and oxen, yea, and the beasts of the field; the fowl of the air, and the fish of the sea, and whatsoever passeth through the paths of the seas. O Lord our Lord, how excellent is thy name in all the earth!" It was a natural extension of this right of dominion that is reflected in the following sentiments from a contemporary scholar: "The prospector, the pioneer, the buckskin frontiersman, the deerslayer, the forty-niner, the settler, the sod-buster-- who can measure the impact of these folk heroes during the adolescence of a nation whose self-imposed mandate was first to bring a lusty continent to its knees, then, when that conquest was achieved, to create a technological and industrial paradise in which untrammeled initiative, individualism, leisure, the horn of plenty, and social welfare were inescapable blessings? Given this psychology of an endless frontier, a limitless cornucopia of natural resources, and the call to multiply, can anyone now wonder at our 'sterile promontory, this foul and pestilent congregation of vapours' as Hamlet put it? One can almost see Frederick Jackson Turner, on the other side, shaking his head in sadness, though not in wonder, at our plight. The barbecue of the glorious American frontier is over. It now appears we are doomed to sweep up the mess if ever again we expect to dine in peace and safety."

Other popular illusions, misunderstandings, and ignorance are behind, and continue to complicate, the ecological mess we are in. For instance, if we think about it at all, most of us probably do not down deep accept the inexorable law of the conservation of matter -- and until we do we shall be largely unable to solve the little-known but mounting problem of waste disposal. The flushing of a toilet, the backyard bonfire, the garbage man (he is now a refuse engineer), the abandoning of a wornout automobile (thousands are abandoned on the streets of New York City every year), the jettisoning of diesel oil at sea -- these do not dispose of matter, they simply transform it. "Late and soon, begetting and spending, we lay waste our powers; little we see in nature that is ours" Wordsworth might say today. Solid waste, defined as everything which doesn't go up the smoke stack or down the drain, is generated at the rate of five to six pounds per person per day, or put another way, at the rate of 20,000 tons per day by the city of New York alone. The average density of this urban solid waste comes to 300 pounds per cubic yard per person; its composition is roughly 55% paper, 14% food (a shocking figure in the face of predictable famines within the decade), 9% glass and 9% metallic, 5% yard refuse, 4% wood, 1% plastic and 3% miscellaneous. If you are not already aghast at this cumulative profligacy, I suggest you read a book called "Not So Rich as You Think", by George R. Stewart (Houghton Mifflin Co., Boston, 1968). Franklin has said that experience keeps a dear school, but a fool will learn in no other. Until we accept the facts that the spaceship earth is a closed ecosystem; that most of our natural resources are finite and must be husbanded and that we cannot afford to destroy the earth's regenerative capacity for those such as oxygen and water; and that techniques of reclamation and re-cycling must be developed immediately and used to the hilt to minimize dead waste of all kinds-- until we learn these lessons, together with that of a controlled birthrate, we run the risk of burial in our own effluents. This is hardly a fit sepulchre -- a kind of cosmic city dump -- for him who is just a little lower than the angels.

Then there is our infantile and comforting delusion about science and technology and their omnipotence in finding solutions to human ills. It is difficult, after all science has done on our behalf, for us to accept the rude reality that there may be limits of human error and perversity and ignorance and vanity over which science, which is no more than the child and agent of man's limited intellect, has no jurisdiction. Pills and machines alone probably cannot save us from ourselves -- yet we go on hoping and assuming.

High also among our lethal ignorances is that of the basic laws of ecology which govern the delicate interdependence of all species regardless of size, habitat, or disposition, the mechanics of their function in the food chain and in their various environments. Philip Wylie says it clearly: "If all the ecologists could pool all they know and add all the data from every science, they would be unable to say what life forms and life systems are essential for man's survival. We know too little about the intricate, living understructure supporting our species to risk losing any wild living form, weed or pest or predator, lest one break in the planetary, life-sustaining system be fatal." And yet we valiantly add each year to the considerable number of exterminated species, each the patient triumph of untold millenia of trial and error. The rancher still slays the golden eagle from the window of his Piper Cub; the poachers for milady's $200.00 handbag (and the Florida back-country juries that wink at them) are gaining on the last bull alligator south of Okeechobee; thousands of helpless young fur seals were bludgeoned and skinned before death again this year, apparently with the sanction of an enlightened neighboring government; and the osprey and the bald eagle, our national symbol, brood eggs made sterile by the exponential accretion of chlorinated hydrocarbons in the food chain. Each species -- and I believe there are about eighty-five on the endangered list at present -- has its own inscrutable point of no return (as did the late passenger pigeon), even though hundreds of thousands of individuals may still remain, and even though we suddenly and desperately call off the onslaught, which may have begun in the Stone Age question, "Hawks -- what good are they?" or "Who cares about a few frogs anyway?" Better, perhaps, to ask that question about ourselves, we who are also a species.

Finally there is the historic and understandable illusion that our world, our globe and all that is therein, is without end, without limit, infinite and eternal, there for the taking. Who could question the supply of air and rain and earth and fields and forests? Not long ago three young men with a totally new perspective questioned it, and people are beginning, but only beginning, to recognize the frightening verity that this globe of ours has only a few thousand feet of oxygen, and that we look pretty small from way out, and that maybe we'd better look into this process of how oxygen is made and not muck up that process any more, and what do you mean we are the only sealed and self-sustaining ecosystem known in the universe, and how did you say you spelled biosphere and phytoplankton and eutrophication and what do they mean anyway? It's a lonesome and humbling and overdue revelation this moon trip has brought us, hopefully not too late. For that alone it has been worth every dollar of the effort. Now that we know we can't blast off to a neighboring planet to borrow a cup of oxygen when we run out, maybe we'll begin taking care of what we have.

In sum, behind these vulgar and tragic delusions has been the vain yet pervasive dichotomy of men and nature, not the harmonious unity of man in nature. Once this basic reorientation has been accomplished, the rest should be easier.

Some one might ask at this point what I would do about the situation if I had the chance.

First thing I'd do is to make sure my boys and girls understood the truth about the illusions I have just cited so that their minds would be cleaned and ready for the rest of the gospel. Then I'd tell them what ecology means -- housekeeping -- and I'd quote Aldous Huxley and Loren Eiseley and Aldo Leopold and John Storer, and I'd scare them some by making them listen to Barry Commoner and Paul Ehrlich and Lamont Cole and Fairfield Osborn. I'd ask them to go find out the rate at which the lead content of the polar ice caps is increasing, and what this has to do with the high-test gas they use in their cars; then I'd send them to the local hospital to observe first hand the latest case of lead poisoning and the interesting effects it has on the human nervous system. I'd pack them off to Woods Hole to hear the experts substantiate their grave doubts about the survival of our great oceans as food producers. I'd tell them that each non-smoking resident of New York City involuntarily inhales the equivalent of thirty-eight cigarettes a day, and that in our topsy-turvy country 70% of the people live on 1% of the land and what does this imply for their children and grandchildren?

I'd make sure they understood that almost every action of a human being, voluntary and involuntary, has some effect on his environment, and that the full story of those effects cannot yet be known in the infancy of present knowledge -- only that there are effects. I'd encourage them to relate their careers in some knowledgeable or productive way to the infinitely varied field of environmental science -- not because I want to make ecologists of them, but because I want them to know how to vote, and how to manage, not exploit, our cosmic household in the interest of survival. I'd do my best to put the perceptive ones to work looking for the seeds of the majestic new religious faith which I firmly believe awaits us in the realistic and humbling revelation of man's true place in the web of life. I would try to imbue them not with the disabling fear of imminent and universal doom, but with the galvanizing trust that there is still time, and that the new insights of environmental wisdom, realistic and uncompromising as they will be, will be more ennobling and rich with serenity than all the placards and shibboleths, both theirs and ours, of yesterday; and that, while the dialectic of good and evil, pleasure and pain, desire and frustration, struggle and failure, will continue to test our stumbling progress as before, still the common search for a more wholesome world may prove the basis for new levels of unit among all men.

And, speaking of unity, I would remind them that war, violence, and the wasting convulsions of our cities are only secondary manifestations of environmental disorientation, and therefore that their causative mechanisms may possibly be found, as with the lemming syndrome, in environmental stress research, not in the diffused general activity of riots and rebellion, or the petulant infantilism of fake anarchy. Somewhere along the line I couldn't resist telling them that old definition of a fanatic as one who, having lost sight of his goal, redoubles his effort.

And once I got their guard down I would go on talking to them about the books I'd like them to taste (I long ago learned that few books are worth swallowing). Among them would be Fairfield Osborn's 1948 warning entitled "Our Plundered Planet". There would also be "The Immense Journey" by Loren Eiseley, together with his recent "The Unexpected Universe". As texts, I would begin with John Storer's "The Web of Life" and Eugene Odum's "Ecology" from the Modern Biology Series. Since the most important single problem in the environmental crisis is the number of people who create it, I would quite carefully go over Paul Ehrlich's "The Population Bomb" and discuss his speculations about famine amidst plenty and the relationship of overpopulation to the probability of war. Now that Rachel Carson has been so dramatically vindicated, I would ask them to read "Silent Spring" and follow it with Frank Graham's retrospective evaluation entitled "Since Silent Spring" so ably reviewed in The New York Times Book Review of March 1st by your Governor who, incidentally, has long been concerned with the environment. And after they had finished this introductory reading list I would turn them loose for a couple of days to read and ponder that lovely classic called "Sand County Almanac" by a great man who was named Aldo Leopold, of Wisconsin. He talks, among other things, about our need for a land ethic, and I would like my kids to begin work on the first draft of that, something we've never had and must have if the land is going to remain a part of our lives and we of its. From this exercise they would come to see how close we may be to the day when an aroused and mutilated nature may strike back at the brutal ones who have challenged her immutable sovereignty.

There are other newer books, of course, a flood of them, exploring the countless new frontiers of man in the web of the living. One, I note, Stanley Burnshaw's "The Seamless Web", even explores ecology and the esthetics of poetry. I think I would set my boys and girls to work screening the weekly book reviews so they could advise me, and themselves, which ones we should buy for the library. We might even get to the point of declaring a one-semester educational moratorium, during which period we would fire the entire faculty on full pay, tear up the curriculum, rewrite it so that every course proceeded from and within an ecological frame of reference, then re-hire only those teachers who could demonstrate they would abide by the new study plan, with every third semester devoted to field observation and research.

At this point I should tell you that I am astonished at how simple it is to solve educational problems -- now that I have retired. Astonishing! I recommend it. But I am not through with my boys and girls yet.

When they get back from East High in Denver, and the Housatonic Valley Regional High School in Falls Village, Connecticut, and from the Forman School in Litchfield, and from Mt. Hermon and Northfield, and from a dozen other schools, both public and independent, to which I have sent them to observe environmental programs in action, I will go on talking to them. I will discuss the eutrophication of our dying streams and lakes, and how phosphates and raw human waste bring this about, and what they and their children must do about our water supply. I will quote from the new book "Since Silent Spring" a passage about chlorinated hydrocarbons (the DDT family) which tells us that human milk in the United States already contains between fifteen and twenty-five hundredths parts of DDT per million, which "means that American babies consume four times the maximum daily intake recommended by the UN, or five times the DDT content allowed in the interstate shipment of cow's milk." I might suggest that the sharp rise in the fatalities among elementary school children from hard-line narcotics may be among the first chilling manifestations of the death wish, now known to be one of the potential by-products of that hidden enemy, cultural stress. I will talk about the shocking pollution -- even elimination -- of our coastal estuaries, which are the irreplaceable cradles of marine life, and about the relationship of sound pollution to mounting neurogenic and cardiac fatality rates; and about thermal pollution in our rivers created by atomic plants (let alone the threat of atomic waste disposal) and the bizarre after-effects of acid drainage from abondoned, unfilled mines and oil drillings. I will tell them the disquieting fact that once we eliminate all the environmental pollutants that are detectable by human senses, we will have solved approximately 1% of the problem. I will warn them that the pseudoscience of dietetics, in spite of its brave Madison Avenue front, is almost as medieval as the present state of the master science of which we are now speaking. And in a kind of peroration I will say something like this:

> "Your generation is the first to have time to implement any kind of lasting remedy for a plundered planet. As your elders have so suddenly and chillingly discovered, we may have long ago set in motion environmental chain-reactions which are irreversible. A decimating viral mutation, for instance, may at this moment by riding a speeding jet from Delhi or Dakar to General City, U.S.A.; we may already have blacktopped or poisoned enough oxygen-producing green land to trigger a new age of ice; or, more immediately, economic disaster may lurk in the civil frustration born of a government so complex and so tuned to the politics of affluence that it has lost the speed

> and mobility of response. We hope not. We hope our Last Freedom -- the freedom to survive -- is still open. Your generation senses this need. It seems to me your first fringe reactions, the tantrum reactions of rebellion and resentment, withdrawal and escape, radicalism and non-reason, were aimed at symptoms, not causes. As such they were little more than initial manifestations of the stress syndrome that engulfs us all. I believe you are now at the deck value level. More power to you as you respond in your own informed and realistic way to the environmental imperative."

In the end, I might take a chosen few of those kids aside to reflect on a lyric or two based on the intricate microcosm of an aeolian biome, or the majesty of an Oklahoma squall line in April, or maybe the rollicking courtship flight of the American woodcock.

These things are for real, man -- as real as wheels and rock, pot and pep. I think maybe you and I better get with it.

Educational Technology in the Secondary School -- Now and in the Future

by

Charles F. Schuller and Paul W. F. Witt

It seems uniquely appropriate from the standpoint of history to be discussing the subject of Educational Technology in the State of Massachusetts for it was here that the first free public high school in the United States was established, in Boston, in 1821 (1:725). That bit of historical data, by itself of no more than passing interest even to an educational historian, assumes more relevance to our purpose and times when we examine the setting in which the public high school came into being.

That setting was one of rather widespread dissatisfaction with the programs provided by the private academies of the time. The academies were fundamentally dedicated to the then current elite. Although they modified the original classical curriculum sufficiently to accommodate the sons of merchants who needed to know navigation and accounting, as R. Freeman Butts wrote in his Cultural History of Education, "They ultimately became so rigid and exclusive that they, too, had to give way to an even more democratic institution that was more adaptable to the newer social demands of the 19th century, the public high school." (2:378)

The original public high school was designed for boys 12 years of age or older who were not planning to go to college. The emphasis was on studies of a practical nature--not strictly vocational perhaps--but certainly a departure from the classical Latin and Greek tradition of the academies. As time went on, the public high school expanded from its original intention of providing non-college preparatory studies to include, by century's end, a college preparatory function which held its own along with other functions and could be said to be the beginning of the comprehensive high school concept of the present era.

The details are of less importance than the parallels. We are today clearly facing educational demands which require change. This time, the changes required are perhaps more social than economic, more behavioristic than pragmatic. It is difficult to pinpoint the changes which are needed. But we sense, at least, in the often inchoate and inarticulate demands of the times, the need for an educational system which is more responsive to the needs of its citizens and its students.

We could well pursue this subject for a considerable time. Suffice it to say, the public high school, since its beginning, has been a subject of controversy between the old and the new, a center for the tryout of innovative ideas, and a source of hope for at least partial answers to society's ills and growing pains.

We would be ill-advised, however, to assume that our present problems are mere growing pains. The pace of change in our technological society may already have left behind the traditional options of simple modification of the present structure of secondary education. It is tempting to digress further on the subject of socially responsive curriculums and programs which offer possibly better solutions by minor modification of traditional offerings. The simple fact is that society's needs may already have passed us by!

Your study is intended to facilitate the development of curricula and instructional programs which will enable the high schools in Massachusetts to serve youth and society more appropriately and more effectively and thereby continue to play an important role in your society. Our concern here this afternoon is to identify briefly some of the major contributions educational technology has to make to the development of such programs and to suggest some of the steps you must take in order to realize these contributions.

There are two approaches we in educational technology can take in order to help you realize "high quality educational programs and services" (3) in your high schools.

One of these is for us to help you do better what you are already doing. This is the customary approach of media specialists. But this approach often helps perpetuate the out-moded and the non-functional, an outcome we all wish to avoid. Because much of the traditional secondary school curriculum is in need of radical revision if not complete change if we are to serve today's youth and the world in which they live, the media specialist's traditional approach is no longer adequate. He must play a role and perform functions that go beyond what he has done in the past. Not to do so, may mean that he will merely help force society to turn the task of educating the youth of this nation over to someone other than high school teachers and principals. But since we are, first of all, educators and, secondly, specialists in educational technology, we do not intend to allow this to happen.

The other approach is for the media specialist to participate with teachers, curriculum specialists, administrators, and others who may be involved such as pupils and parents in systematically evaluating and re-designing the curriculum and developing new programs for teaching and learning. While this approach is not yet widely practiced, there are a number of highly respected students of education and society who maintain that the potential contributions of educational technology can be realized only through this approach.

The nature and importance of this approach and a recommended course of action for extending it and for ensuring its successful implementation are presented in the recently released report of the Commission on Instructional Technology which is entitled To Improve Learning (4).

We suspect that some of you have already read this report. If you have not, we urge you to do so. We believe you will find it especially useful as a frame of reference for judging the status of instructional technology in your school and for making more extensive and better use of this technology as you seek to improve teaching and learning in your situation.

Instructional Technology Defined

Like many terms in our pedagogical lexicon, instructional technology has different meanings for different people. However, most generally, instructional technology is used to describe media and devices such as graphic and pictorial materials, films, television, tape recorders, overhead projectors, and computers. Included in the meaning of the term is the use of both "software" and "hardware" in teaching and learning. Nonetheless, this simple definition may not have as wide currency as we often assume for on the basis of its year-long study the Commission on Instructional Technology came to the conclusion that many teachers and administrators as well as laymen in general are not really familiar with the term.

While we often use the term instructional technology to refer to the use of new media in teaching and learning, we want to stress that this meaning represents a very limited perception of the potential of the modern media of communication for enhancing learning.

This point is emphasized by the Commission on Instructional Technology in its definitions of instructional technology which are:

> "Instructional technology can be defined in two ways. In its more familiar sense, it means the media born of the communications revolution which can be used for instructional purposes alongside the teacher, textbook, and blackboard . . . . In nearly every case, these media have entered education independently, and still operate more in isolation than in combination.
>
> "The second and less familiar definition of instructional technology goes beyond any particular medium or device. In this sense, instructional technology is more than the sum of its parts. It is a systematic

> way of designing, carrying out, and evaluating the total process of learning and teaching in terms of specific objectives, based on research in human learning and communication, and employing a combination of human and nonhuman resources to bring about more effective instruction." (5:5 & 19)

As the Commission admits, "The widespread acceptance and application of this broad definition belongs to the future" (6:19). But as the Commission emphasizes, "Though only a limited number of institutions have attempted to design instruction using such a systematic, comprehensive approach, there is reason to believe that this approach holds the key to the contribution technology can make to the advancement of education" (7:19).

It is the definition of instructional technology as the design of instruction using a systematic, comprehensive approach to which this paper is directed. Anything less is hardly worth anyone's time unless it be for historians a generation or more hence to analyze the demise of the American dream or an educational system for all the children of all the people sufficient to support the basic philosophy of democracy which had its birth in the New England Colonies.

Potential Values of Instructional Technology

As a result of its study, the Commission concluded that the present status of instructional technology in schools and colleges is at a very low level of development. Even the most commonly used materials and devices are employed but a small proportion of the time and the quality as well as the quantity of instructional technology is of a disturbingly low order. According to the Commission, "Examining the impact of technology on American education in 1969 is like examining the impact of the automobile on American life when the Model T Ford first came on the market" (8:19).

Despite this limited assessment of current practice, the Commission believes that instructional technology has high potential for improving the quality and effectiveness of education. Specifically, the Commission identified the following potential values of instructional technology:

1. Technology can make education more productive (9:30).

   The magnitude of the task our society has assigned schools and colleges coupled with the constraints in personnel, resources and time make it imperative that the educative process be as effective and as efficient as possible. Instructional technology can help make it so. For one thing, it can often speed up the learning process, at least for certain individuals. While there will always be a need for teachers, instructional technology, when appropriately utilized, can free teachers from many routine management and instructional tasks so that they can concentrate their time and efforts on the roles and functions for which they are professionally trained and which they can do best.

> "A human being should not be wasted in doing what forty sheets of paper or two phonographs can do. Just because personal teaching is precious and can do what books and apparatus can not, it should be saved for its peculiar work" (10:67).

Illustrative of this point is the commonplace argument that if a teacher can be relieved of the routine, repetitive, and often boresome task of presenting factual information, generally by means of lecture, he may have time to participate in a small discussion group, observe students at work in a project, or even respond to a student's question or listen to him tell of a recent triumph. He might even have time to think about what he is doing or what he should do. In any event, if teachers had more time for activities of this sort, it is likely that their efforts would be more productive.

2. Technology can make education more individual (11:31).

The problem of how to deal with individual differences among learners is ever present.

Practitioners as well as theorists have developed a variety of approaches and techniques by which teachers can make adjustments in instructional programs to accommodate the differences in pupils' abilities to learn. Carlton Washburne's Winnetka Plan 40 years ago is an example of one attempt to make it possible for pupils to move through a standard curriculum at their own pace.

It now seems likely that some of the recent developments in instructional technology such as programed instruction and computer assisted instruction greatly increase the possibilities of individualizing instruction. Further, exploratory uses of the computer to record a pupil's past performance and to store information about his interests, abilities, and learning style suggest that it may be practical to offer the student many alternatives regarding not only materials and methods but also with reference to directions and objectives.

Accommodating individual differences among learners in a democratic society requires more than modifying the methods, materials and rate of instruction. It also demands curricula which will enable each learner to reach that educational goal we have long claimed to be the right of every citizen of a democracy; namely, the full realization of his unique human potential.

Instructional technology, when utilized within a systems approach to the development of a program of instruction, offers greater possibilities of achieving individualized instruction than those that have existed in the past.

3. Technology can give instruction a more scientific base (12:32).

While we need to know more about how people learn, especially from the electronic media, we already know a great deal about learning that is useful in designing instructional programs and in guiding the activities of teachers. For example, individuals learn more easily and effectively when they are interested in what they are studying and when they see that it has some value to them personally. The work of B. F. Skinner demonstrates the importance of reinforcement in the learning process. Feedback on a learner's efforts also facilitates and increases the effectiveness of his learning.

Instructional technology offers increased and improved possibilities for designing instructional programs that take known learning principles into account. Instructional technology can be used effectively to provide immediate reinforcement and feedback. The use of videotape recorders to enable an athlete, actor, public speaker or teacher to see and hear his performance immediately after he has completed it illustrates this point.

4. Technology can make instruction more powerful (13:32).

Marshall McLuhan's thesis that media are extensions of man's body and central nervous system supports the contention that new forms of communication increase man's capabilities of relating to and understanding his environment. An obvious example is television which enabled millions of people around the world to go with the astronauts to the moon and to live with them throughout their recent hazardous return. Because of what they saw and heard on television, the viewers of moon flights now have a knowledge and understanding of space travel, weightlessness and the force of gravity on the surface of the moon far more meaningful than that which most of them could have gotten through written and spoken communications alone. It is also true, of course, that what people saw and heard when viewing the astronauts inside the capsule and on the moon was made more meaningful by the explanations of commentators and the use of animated motion pictures, working models, photographs, charts and diagrams. But these media are also extensions of man's powers of perception.

5. Technology can make learning more immediate (14:33).

The importance of direct experience in learning and the need to relate the school curriculum to the lives of learners and the society in which they live have been twin themes of pedagogs for years.

While the trip television viewers took to the moon was not an actual trip, the sense of immediacy they experienced coupled with the highly realistic portrayal of the events they observed made it almost seem for many people that they were actually there. The inauguration of a president, the veto of an act of Congress, the formal opening of Expo 70 are other examples among thousands that could be cited to document the fact that television provides vicarious experiences that are often extremely close to direct experience. The potential of instructional technology for utilizing the "here and now" in teaching and learning is very great indeed.

6. Technology can make access to education more equal (15:33).

Equality of educational opportunity is a fundamental ideal of the American people, but the tragic truth is that for many children, youth and adults in this land the reality has fallen far short of the ideal.

Many schemes have been introduced into American education to make curricula more responsive to the needs or learners and more relevant to their lives. While it is fair to say that some progress has been made, we all know that much remains to be done.

It is the view of the Commission that the use of instructional technology is necessary in order to provide learners with more equal access to learning resources.

---What have we done to realize these potential values of instructional technology?

---What have we done to use the new media to make teaching and learning more effective and more efficient?

---What have we done to use instructional technology to make access to educational opportunity more equal?

While our answers to these questions must recognize that the extent to which schools are employing instructional technology as well as the success achieved through its use is limited and much less than we would have it be, we can demonstrate here and there that the growth of instructional technology has been considerable since 1958 when the National Defense Education Act became law. Your study reports extensive use of new media in some schools.

In a recent conference on the Report of the Commission on Instructional Technology, several people who have contacts with schools throughout the country maintained that schools today, at least in general, are much different than they were in the fifties. They claimed that teachers and pupils use overhead projectors, tape recorders, record players and filmstrips rather commonly. One member of the Conference reported she had seen evidence of this in small schools in the rural Midwest. Many of us can also attest to the fact that teachers and pupils are making increasing use of the new technology, particularly the less expensive and more easily managed types of equipment and materials. This fact is recognized in your report.

Such are a few of the bright spots. Actually, some of the illustrations of promising uses of instructional technology described by the Commission were drawn from schools in Massachusetts and several educators cited in its report are from institutions located in this State.

It is the bright spots which heartened the Commission's view of the much greater benefits still to be derived from instructional technology. As a result, the Commission agreed that our nation must invest in instructional technology on a scale much greater than it has in the past.

Time does not permit a status report of current uses of instructional technology. But it will be worthwhile to recall a few pioneering efforts to improve education through the use of instructional technology.

Television

Everyone here undoubtedly knows of the enviable record of WGBH to utilize television as an educational medium. The accomplishments of this station are of such high order that the Commission described WGBH as one of the nation's most successful educational television stations. Nonetheless, it is unfortunately probable that this station's programing has had relatively little impact on the curricula of the secondary schools in its viewing area. It is also probable that the high school teachers in Massachusetts who attempt to utilize commercial television programs in their teaching, either by having their pupils view at home or by playing in class a locally-recorded video tape of the original telecast, are distinctively rare. It is also probable that those who attempt to help their pupils become selective and discriminating viewers of television may be even rarer.

The potential of open and closed-circuit television as well as video tapes is still largely untapped so far as secondary education is concerned.

Other forms of television technology including 2500 megahertz, multiplexing, electronic video recording and satellites, as reported by the Commission, "have great potential for education . . . however, their use and effectiveness have been limited--both in quantity and quality" (16:71).

Programed Instruction

About ten years ago, educators from coast to coast were suddenly made aware of what was billed as a revolutionary and highly promising instructional technique, namely, programed instruction.

Due, at least in part, to uncritical thinking on the part of many educators as well as the enthusiasm of some entrepreneurs for a quick profit, programed instruction enjoyed but a brief period of ascendancy and then a quick demise. This was unfortunate because the failures which caused educators to discredit programed instruction were due mainly to the inexpert and hasty development of the programs. When the process is properly and appropriately applied--and it is a process--programed instruction is one highly effective instructional approach. Industry and military training programs have used it extensively and successfully and there is no reason why it cannot contribute materially to individualized instruction in our elementary and secondary schools as well.

Perhaps the most important outcome of our experience with programed instruction is the clearer insights we now have of the process of instruction. Our attempts to program instruction have helped us see more clearly the vital importance of specifying our objectives, testing our instructional designs and materials with representative learners and carefully validating completed programs. While this process is fundamental in the development of all instructional programs, its importance in developing programs for individualized instruction is especially apparent.

Dial Access Information Retrieval Systems

Another recent innovation in instructional technology is the use of dial access information retrieval systems. A nationally prominent leader in exploring the educational potentialities of information retrieval systems is the West Hartford Public Schools. The Oak Park-River Forest High School near Chicago is also experimenting with this particular technological device. Initial experiences with dial access retrieval systems confirm their high potential for facilitating individualized instruction.

Other Illustrations

While we could describe numerous other pioneering efforts in instructional technology such as CAI Games and Simulation, 8mm film, and student produced films (notably popular in some of your schools), it would be useful instead, to show some excerpts from a film entitled The Teacher and Technology which illustrate new applications and procedures as of two or three years ago and which are still sufficiently unique to merit our attention.

Excerpt: Learning as Self-Learning

> "In a montage of young people in self-instructional, media-centered experiences including models, tapes, oscilloscopes, computers, teaching machines, exhibits, and other technological developments, the point implied is that, after all, all learning is self-learning and that while Johnny must still learn to read, the fact is that the Second Industrial Revolution has caught up with education. Instructional Technology is here to stay."

Excerpt: Media and the Continuous Progress School

> "The Brigham Young Laboratory School in Provo, Utah, is viewed as an example of a growing number of programs based on individualized instruction, independent study, and the use of both programed and non-programed materials. The breakdown of learning activities into independent study, small group, and large group instruction, individual testing, and counseling is seen. Lowell Thomson, Director of the Laboratory School, describes the program with comments by several teachers."

While some of the examples of instructional technology shown in these excerpts border on the systems approach to teaching and learning, they are, in the main, illustrative of the more conventional use of instructional technology.

As an example of a systematic approach to the development of individualized instruction it would be useful to show a slide-tape presentation of the story of individualized instruction in business machines and typing at Lansing Community College.

(Slide-Tape Presentation)

While this highly successful program is not the epitome of the systems approach, it is certainly an excellent initial effort.

One point which should be particularly emphasized is that the revised Business Machines program illustrated here was first designed to achieve specified purposes for specified learners under highly flexible conditions. Then, and only then, were the media brought in which were necessary to do the job. Needless to say, it was a job which could not be done without media and which was literally made possible by educational technology. Nonetheless, the important point is that such systematic analysis of learner needs and systematic development of programs to meet these needs is the process by means of which the real potentials of instructional technology can be realized. It is also the most promising process developed to this time for the solution to education's crucial problems.

As to the use of instructional technology in our high schools now, perhaps the best we can say is that some schools have made promising starts.

As to the future, you, the parents, board members, teachers and administrators, will play a significant part in determining that future.

Speaking for many specialists in learning theory and instruction as well as in media, the Commission on Instructional Technology has pointed the way we should go. Whether we get there or not will depend, in no small way, on the depth of your commitment, the effort you make to develop the requisite knowledge and skills, and the support you get from the public generally.

The stakes are high. We hope we will all rise to the challenge and succeed in meeting our responsibilities.

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REGIONAL CONFERENCE

A Study of the Comprehensive High School in Massachusetts

CANTON HIGH SCHOOL
Canton, Massachusetts

Thursday, April 9, 1970

AGENDA

9:30 - 10:00 Coffee and Registration

10:00 - 10:30 Report of Study - Dr. William C. Gaige and Dr. Lloyd S. Michael

10:30 - 11:00 Discussion about the Study

11:00 - 11:45 Position Paper - Dr. Lloyd S. Michael

Ed.D. New York University; Director, A Study of the Comprehensive High School in Massachusetts; Professor of Education, Northwestern University; Superintendent, Evanston, Illinois Township High School, 1948-68; National Committee on Secondary Education; Chairman, National Advisory Board, National Instructional Television Center; National Advisory Commission, A Study of the American Independent School; Chairman, Illinois State Scholarship Commission.

SUBJECT: "PERSPECTIVES ON THE COMPREHENSIVE HIGH SCHOOL IN THE SEVENTIES"

11:45 - 12:20 Reactions - Panel, Audience

12:30 - 1:15 Luncheon

1:15 - 2:10 Position Paper - Dr. J. Lloyd Trump

Ph.D. University of Chicago; Associate Secretary, National Association of Secondary School Principals since 1960; Director, NASSP Model School Project. He is also a widely traveled educational consultant and lecturer. Dr. Trump's varied positions in education include: Professor of Education, University of Illinois, 1947-59; Director, NASSP Staff Utilization Commission; Director, NASSP Administrative Internship Program. Author of numerous articles and books.

SUBJECT: "DOING BETTER WITH WHAT YOU HAVE"

2:10 - 3:00 Reactions - Panel, Audience

3:00 - 3:15 Summary

Perspectives on the Comprehensive High School in the Seventies

by

Lloyd S. Michael

Secondary education - available to all, enrolling all, and meaningful to all - has long been a part of America's hope and aspiration for its youth. We have sought to develop and maintain a program of universal secondary education which affords to each youth the maximum opportunity for achieving self-realization and social effectiveness.

Progress toward the attainment of universal secondary education has depended upon the efforts of many institutions. There has not been in the past, nor is there today, a typical secondary school. The pattern is one of wide diversity in organization, facilities, program, services, and financial support among our some 25,000 schools. More than 9 in 10 American youth are now attending school. Some 10 percent attend a wide variety of independent and parochial schools, the other 90 percent are to be found in tax-supported and publicly controlled institutions. Among these are very small schools, some smaller than 100 in enrollment serving sparsely populated areas, and because of their size, limited in the quality and variety of programs available to their students. At the other extreme, are found urban counterparts with thousands of youth clustered in a confusion of classrooms and penalized through loss of individual identity and attention because of sheer numbers and the difficult problems of organization and control. Between these unhappy extremes lie thousands of public high schools, each with its own unique student body, organization, program, facilities, and staff.

Cognizant of the need to provide a structure to ensure suitable educational experiences for a rapidly increasing and widely diversified youth population, the Commission on the Reorganization of Secondary Education in 1918, more than a half century ago, advocated the comprehensive high school, combining all curricula in one unified organization. Gradually but surely during the years, the multi-purpose, the all-inclusive high school has come to be recognized as the educational institution most capable of serving all youth.

The comprehensive high school through the years has had many strong advocates. Dr. Conant, one of the strongest supporters has stated that "if one accepts the ideal of a democratic, fluid society with a minimum of class distinction, the maximum of fluidity, the maximum of understanding between different vocational groups, then the ideal secondary school is the comprehensive public high school." Another champion of the multi-purpose high school has been

Dr. Will French who declared this school organization is "one of the best means for creating social unity without crushing individuality and for developing individual diversity without social cleavages." John Gardner has written:

> "The comprehensive high school is a peculiarly American phenomenon. It is called comprehensive because it offers, under one administration and under one roof (or series of roofs), secondary education for almost all the high school age children of one town or neighborhood. It is responsible for educating the boy who will be an atomic scientist and the girl who will marry at eighteen; the prospective captain of a ship and the future captain of industry. It is responsible for educating the bright and the not so bright children with different vocational and professional ambitions and with various motivations. It is responsible, in sum, for providing good and appropriate education, both academic and vocational, for all young people in a democratic environment which the American people believe serves the principles they cherish."*

The unique role of the comprehensive high school, according to these advocates and many others, has been defined as that of creating social unity and of developing the individual to his maximum potential. There is general agreement among educators and lay people that the secondary school most likely to provide this challenging education for most young people is the comprehensive school, serving the many purposes of society and youth, including the common purpose of integrating education to insure social stability and balance, and the several purposes of individual pupils for the realization of their vocational, educational and avocational goals.

While impressive gains have been made in our comprehensive high schools, the search for a greatly strengthened school continues. There are many critical problems that remain to be solved. There are different questions still unanswered. There are desired goals not yet realized and many educational needs of youth not met.

The comprehensive high school of the seventies, if it is to be a markedly improved school, must differ in many ways from the school of today. It is our thesis that conventional approaches are most inadequate to meet our crucial educational needs and to perform the role that this decade will demand of the comprehensive high school. It has been accurately stated that an educational institution tends to look back over its shoulder rather than forward. Progress in our high schools in the future will necessitate new ideas and novel approaches to many of our present concepts and current practices.

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*Conant, James Bryant, The American High School Today, Foreward by John W. Gardner, McGraw-Hill Book Company, Inc., 1959, pages ix and x.

One of the stated purposes of this Study is to gather, organize, and interpret data related to the quality, comprehensiveness, and relevance of the programs and services presently offered in the high schools. This morning I want to discuss these three elements as critical evaluators of the high school of the future.

As you know this Study is entitled, A Study of the Comprehensive High School in Massachusetts. Perhaps a more accurate title would have been, A Study of the Comprehensiveness of the High Schools in Massachusetts. I believe that the high school of the future must and will meet certain criteria of comprehensiveness. These are:

1. A broad program of general education for all students.
2. An excellent program for students who plan to further their formal education in college or other post-secondary school institutions.
3. A quality program of occupational education for those students who plan to terminate their formal education with graduation from high school.
4. An appropriate program of special education for handicapped students and remedial programs for students with academic deficiencies.
5. An effective program of pupil personnel services.
6. An extensive program of school activities.
7. A high degree of flexibility and adaptability in its offerings and administrative practices so that students have many options depending upon their individual needs and changing educational and vocational plans.

Time in this presentation does not permit a discussion either of the reasons why I consider these seven criteria or comprehensiveness valid and essential nor what changes in organization and administration would be necessary to effect a higher degree of comprehensiveness. Let me raise certain problems and issues that may give our panel and the audience an opportunity to raise questions and give their reactions. Some of the significant problems and issues are:

1. Is the size of a school's enrollment a determinant of comprehensiveness? There are those who say that you cannot have a truly comprehensive high school with an enrollment of less than 1000 students. Or that a minimum of 25 to 35 percent of the students must be enrolled in the vocational curriculum.

2. Given an adequate enrollment, can a school with limited financial resources offer a curriculum with sufficient breadth and depth to meet the needs of a diverse student body, and to provide essential facilities?

3. Is the establishment of regional vocational-technical high schools discouraging the development of regional comprehensive high schools?

4. Should regional vocational high schools greatly extend their academic programs and become multi-purpose high schools?

5. Does the locale of the school - the large city, the suburban community, the rural area - impose unique conditions in the development of future comprehensive high schools?

6. To what extent is the cooperative affiliation of one or more high schools the most feasible answer to needed comprehensiveness?

An adequate educational program must afford each student a number of options for his future - a job, college entry, further vocational training, or a combined work-study program. In addition, it should help him develop his greatest potential as a person, and prepare him to assume the duties and responsibilities of an effective citizen. Recognizing the wide diversity of educational needs and interests which the unselected student body in the typical high school possesses, the program in the comprehensive high school can best meet the common, integrating needs of all students and the specialized needs of the individual student.

The high school of the seventies must meet the test of quality. William Carr stated several years ago that we had solved the problem of getting children and youth in schools, now the concern must be what they get out of school. Quality through diversity is the charge to the public high school. Quality must be the kind of comprehensive education that serves each individual and serves all.

Norman Cawelti, with modifications and revisions from other educators, developed 17 characteristics of a quality high school. For too long we have been satisfied with tangible, observable conditions and arrangements as valid indicators of quality. I refer to such over-used indices as training and experience of the staff, pupil-teacher ratios, per-pupil expenditures, number of volumes in the library, pupil space allotments, and even the number of National Merit Scholarship winners. The characteristics that Cawelti and others advocate go much beyond the more traditional measurements of quality. For example, they ask high schools to answer such searching questions as the following:

1. Are there sufficient course offerings to choose from so as to permit all students to pursue in depth those authentic vocational and academic interests they may have?

2. Are sufficient instructional materials, procedures, and methods sufficiently varied, extensive, and contemporary to make learning itself a self-renewing process for students?

3. Are students increasingly encouraged and/or required to assume more responsibility for their own learning and to make intelligent decisions about their future? Are they extended more autonomy, both in studies and general control as they move through the school?

4. Is the school organized so as to provide the principal and his staff with the authority, responsibility, and funds to initiate new programs on an experimental basis and to evaluate their effectiveness?

5. There is the characteristic of quality related to perceptions of the school. Do students perceive the school as a desirable place in which to learn and live? Do teachers envisage the school as one where their own personal and professional aspirations can be fulfilled? Do parents consider the school to be providing that quality of education they are seeking for their children? Does the administration perceive the school situation to be amenable to growth, change, improvement?

These questions and others like them are truer measures of quality than those traditionally utilized in our schools. The new Evaluative Criteria, 4th Edition, now being implemented in the schools in cooperation with the New England Association of Colleges and Secondary Schools, provide other significant indices of quality. It is hoped that the National Assessment Program and efforts of other national groups will add greatly to qualitative measurement and evaluation. The important fact is that quality secondary education demands more services to students and more effort and achievement from them.

In addition to the measures of comprehensiveness and quality, the high school of the seventies must meet the test of relevancy. Relevance, as you know, is a "buggy" word. One writer states that education lacks relevance because it is too disengaged, too detached, too remote from those significant choices which confront students here and now, and too indifferent to the actual problems of society. Newsweek Magazine in a recent article entitled "What's Wrong with American High Schools Today?" states, "Basically the student complaint is that their schools are out of touch with what is most important in their lives, that they have failed to keep pace with the great changes in American life during the past two decades." Ralph Tyler writing in Agenda for the Nation challenges the secondary school to develop a relevant and authentic curriculum to serve more adequately the needs of youth and the demands of a changing, technological society.

Alvin Eurich in his book, Reforming American Education, makes a strong case for the humanities as the new and essential frontier in curriculum reform. He states that the humanities, properly conceived and taught, constitute the great integrating force in the school curriculum. To achieve this schools must transcend the traditional subject matter categories by which the schools organize the curriculum. Schools, according to Eurich, must center their teaching on major ideas with which students will have to grapple throughout their lives. Only the insights of the humanities, he continues, can illuminate such themes as freedom, responsibility, and the aims of life.

Too much of what we now teach is deflecting young people from meaningful, productive lives. Teaching must be relevant to young people in today's world. Every subject field must do soul-searching in terms of relevance. Many students are no longer willing to study something because we as teachers and administrators say that eventually they are going to use whatever it is we are presenting, or that educated people must have this information as part of their background. Students are going to have to be, in the current lingo, "turned on" in school more than they are. Much less attention should be given to imparting information, in teaching students how to perform, and much more effort and imagination, as Norman Cousins says, expended in the process of self-discovery and creative development so that youth can learn up to their productive capacity.

Schools must motivate the student to become the person he is capable of becoming. Raymond Houghton wisely reminds us, "Everyone is an intellectual when provided with opportunities for involvement. As students find the teacher relevant and the school relevant, they will fight to be involved. Youth drop out of school not because they want to avoid involvement, but because they seek it and the schools deny it to them." We must constantly remind ourselves that in America our commitment to education includes not only the right of every individual to an opportunity for an education but the right to an equal opportunity for a meaningful, satisfying education.

If the high school of the seventies is to be more widely comprehensive, more relevant, and of higher quality to serve both individual and social needs, it must differ in many ways from most of our high schools today. There are four primary dimensions of change and innovation that I believe need simultaneous attention and careful implementation. Ignoring any of these areas will, in my judgment, inhibit the effectiveness of the other three. Stated as goals these dimensions of change are:

1. We must make effective institutional rearrangements for teaching and learning.
2. We must use more educational technology wisely.
3. We must introduce relevant, authentic curriculum content into all of our courses and in new courses as they are developed.
4. We must emphasize the responsibility of the student for his own learning.

One could easily spend an equivalent amount of time that I have used this morning in a discussion of each of these areas of needed change and innovation. Perhaps during the discussion period the panel and the audience may wish to raise some questions and suggest some promising practices now underway in their schools.

We have made great progress in our high schools. The issue is not whether they are better than they used to be; they are better. The question is whether they are good enough for the critical and demanding times in which we live and for the times that lie ahead. A sober appraisal of the Commonwealth's need for improved high schools today and tomorrow should convince all of us, educators and laymen, of the necessity to use wisely and effectively the material resources, the ideas, and the personnel essential to produce the best possible schools. This is no easy road. Focus on change, as Lloyd Trump has said, requires focus on courage.

You and I need to be conscious of the fact that we are giving responses to needed improvements in education each day by what we do and how we do it. I am convinced that the genesis of change and innovation lies within each of us. The inspiration must be a young man or a young woman whom we have helped to motivate and direct to higher purposes, who senses in the words of Alfred North Whitehead - "a vision of greatness." I am assured that the stakes are high. The results can bring high rewards. The satisfactions both personal and professional are immeasurable.

Doing Better with What You Have--
NASSP Model Schools Project

by

J. Lloyd Trump

My purpose today is to help anyone in any place to improve the quality of teaching and learning. Your school, old or new, in ghetto or suburb, poorly supported or richly endowed, can be better than it is. How to do it is our mission. The basic requirement is that you know where you are going, that your educational goals are clear.

The NASSP has developed a model to help you. I'll tell you about that model and, in the process, suggest some alternatives for you to consider in making changes in the right direction in your school--doing better with what you have.

Some persons argue that any change is better than no change at all--but that is a useless controversy. The directives from pupils and teachers are too clear these days. Schools will change.

The NASSP Model is being implemented in a project, supported partly by the Danforth Foundation--with 34 schools participating. How will these schools be different? What should we call them--more humane schools because each individual gets more attention? Some people in one of the model schools, a junior high school in southeast Washington, D. C., call it the NOW School.

The National Association of Secondary School Principals has the Model for the NOW School. No one else has such a comprehensive program. We have been working a long time with some very old ideas. The roots of our Model are deep.

Quintilian stated the philosophy almost 1900 years ago:

> Moreover, by far the larger proportion of the learner's time ought to be devoted to private study. The teacher does not stand over him while he is writing or thinking or learning by heart. While he is so occupied, the intervention of anyone, be he who he may, is a hindrance.

The foundations also are in pronouncements of Plato, Socrates, the Humanists, in Herbart, Rousseau, Morrison, William Wirt, Carl Rogers, and thousands of others, past and present.

Our contribution in the NASSP is to put a lot of those old ideas, and some new ones, into a total commitment for a Model--or system--where changes in all aspects of schools have to occur. We have been working on quite a number of school improvement projects, for a long time. A few examples, are the work experience project with the NYA in the late 1930's; Planning for American Youth in the 1940's; the staff utilization studies in the 1950's and 1960's; and the Administrative Internship as a means for better schools, also in the 1960's. I am sure that many of you know that Dr. Lloyd S. Michael, Director of your Study of the Comprehensive High School in Massachusetts, served as Chairman of the Committee that developed the NASSP staff utilization studies. My privilege was to direct that project.

The NASSP staff utilization studies developed several publications that attracted world-wide attention. The first, New Horizons for Secondary School Teachers, suggested a broad spectrum of studies while indicating some important choices that principals had to make. The second publication, Images of the Future, attracted even more attention. We put new ideas from the staff utilization studies, supported by the Ford Foundation, into a frame of reference and described our teaching and learning system. The report at the end of the project, Focus on Change--Guide to Better Schools, still sells a lot of copies with translations into several foreign languages.

We tell you these things that you may understand better the origin and development of our NASSP Model. A lot of so-called new ideas today need the model because a failure to change all aspects of the school program limits the possible gains of such innovations as television, programmed instruction, flexible scheduling, micro-teaching, use of varied learning strategies, including educational games, total environment education, various curriculum projects, the school-within-a-school, year-round school, and many more. These innovations fail in most cases to produce pupil gains and to help teachers because they try to function in self-contained classrooms, or with poor staff utilization, and with principals who sometimes have the wrong priorities.

Now I want to give you a more detailed explanation of the NASSP Model. Later I will suggest some ways for you to take steps toward it in your school to do better with what you have.

Outline of THE MODEL of the NASSP Model Schools Project

1. BASIC GOALS:

   a. To provide a program with varied strategies and environments for learning through which all pupils, regardless of differences in individual talents and interests, may proceed with gains.

b. To provide conditions for teaching that recognize differences among teachers and capitalize on the special talents and interests of each person.

c. To define clearly the role of the professional teacher as separate from the roles of clerks, instruction assistants, and general aides.

d. To separate the principal's role in instructional improvement and general supervision from management tasks that can be done by other persons.

e. To emphasize in curriculum revision the distinction between those learnings that are essential for all pupils, and those learnings which are specially relevant for some of them.

f. To reduce required learnings in all subjects to provide more time for pupils to follow their own interests and talents.

g. To develop better methods and materials for evaluating changes in conditions for learning, teaching, and supervising, as well as changes in the use of the things of education; also for evaluating the effects of the program on pupils, teachers, and principals.

h. To utilize school funds, supplies and equipment, and other school facilities differently to produce better results as described under Item "f" without necessarily having more of the things of education.

i. To discover better ways of utilizing outside consultant help not only within a given school but also through audiovisual devices to spread the consultants' talents among other schools.

j. To analyze the process and the progress of change among schools.

2. BASIC CHARACTERISTICS OF THE PROGRAM:

a. The principal spends three-fourths of his time working directly with teachers to improve instruction and learning.

    1) He organizes learning for teachers according to the same general principles that he expects teachers to follow with their pupils.

    2) He selects assistants qualified to handle the school's managerial and other tasks only indirectly related to instructional improvement.

b. Differentiated staffing and other arrangements produce changed roles for teachers.

1) Instruction Assistants (average of 20 hours per week per teacher) oversee pupils' independent study, etc.; Clerks (average of 10 hours per week per teacher) keep records, etc.; General Aides (average of 5 hours per week per teacher) perform tasks not requiring competence in subject areas or clerical skills.

2) Teachers are scheduled an average of not more than 10 hours per week with pupils groups (2 hours with large groups, 8 hours with small); the balance of 20 hours, mostly on school premises, are for keeping up-to-date, developing materials, evaluating, conferring, and supervising.

3) Most teachers serve a new role as teacher-counselor (helping about 35 pupils individually to plan, schedule, and change their independent study time and collecting information about each pupil's progress and difficulties).

4) Teachers work individually in offices or in groups organized by departments or on some other basis.

c. Individualized learning methods emphasize motivation, continuous progress, self-direction, individual scheduling, personalized evaluation, and attention to personal needs and interests, while maintaining pupil accountability.

1) Pupils are required, all the years they are in school, to attend 8 hours of motivational presentations and discussions each week in all 8 areas of human knowledge (30 minutes in a large group and 30 minutes in a small group per week in each area). These groups are scheduled by the school office.

2) Pupils have 22 hours per week for scheduling independent study in the school or community (distribution decided by pupils and their teacher-counselors, changeable by them at will with joint approval). A professional counselor or the principal resolves disagreements, if any, between a pupil and his teacher-counselor. These pupils schedules are made, changed, and recorded by teacher-counselors and their secretaries.

3) Each pupil covers required content at his own pace, using specially prepared materials. Much of this work may be done cooperatively in various-sized groups, as established by students themselves.

4) Evaluation for each pupil is in relation to his own past achievement in a variety of educational goals. Since teachers cannot evaluate every aspect of learning, priorities are established.

5) Attendance of pupils is regularly checked and the amount of each pupil's progress systematically reported by the instruction assistants who supervise independent study.

d. Curriculum revision separates basic, essential learnings from other learnings that mainly are appropriate for pupils with special talents and interests.

    1) Materials are organized to provide self-direction, self-motivation, self-pacing, and self-evaluation by pupils themselves.

    2) The amount of depth and creative studies in relation to required, basic studies increases with the age maturity of individual pupils.

e. Improvement of teaching and learning requires that money and facilities be utilized differently.

    1) Financial input is analyzed in terms of gains (product output) in the foregoing items "a," "b," "c," and "d" (principal's role, teaching roles, individualized learning, and curriculum revision). Improvements in those areas do not necessarily cost more.

    2) Most conventional classrooms become learning centers (both kinds: study and work) for independent study; a few rooms are divided for small-group meetings and for teacher offices and workrooms; a few spaces are needed for large-group instruction (motivational presentations).

    3) Priorities for new construction or for purchase of supplies and equipment are based on what will produce the most good for the most pupils, in terms of the goals of the teaching-learning methods in the Model.

f. Increased emphasis on evaluation is essential to provide feedback for directing further improvements, and to produce confidence in the changes.

    1) The emphasis is on behavioral changes when evaluating individual pupil progress.

    2) Analyses will reval changes made in conditions for learning, teaching, supervision, curriculum development, and use of funds and facilities in school and community.

    3) The effects of the changes on pupils and teachers en masse, on principal and assistants, and financial efficiency will be measured.

Some Transitional Steps Toward Achieving the Model--Doing Better with What You Have

A. Increased attention by the principal to the role of working with teachers to improve instruction.

1. Keep a log for two weeks or a month to show what the principal does. Then summarize the data in a report to the superintendent, calling attention to the time the principal now spends on routine management and other duties that persons with less professional training but more specific preparation might do. Show how the school district cannot afford to have principals spend their time on sub-professional activities. Conclude the report by making positive recommendations about what the principal will do to work with teachers when the changes are made.

2. Set up an "instructional system" to help teachers learn about the concepts in the NASSP Model Schools Project. Here are the three basic parts of any instructional system:

   a) Make a motivational presentation (30-40 minutes) at a general faculty meeting--that is, large-group instruction, the purpose being to encourage independent study.

   b) Organize a faculty study center with materials for reading and reviewing. The other aspect of independent study--going beyond reading, listening, viewing, and thinking--is doing. Help teachers to plan, carry out, and evaluate minor projects as described later in this statement.

   c) Plan a systematic program of small-group discussion with teachers, some groups being departmental and others cutting across those lines.

B. Teacher Roles in the MSP

1. Reduce scheduled class meetings per week to give teachers time for independent study, including the development of materials for pupils' continuous progress. Classes may meet 2, 3, or 4 times per week (same length of time as before) instead of 5. Someone will have to supervise the pupils. Use some teachers while others are free. Better still, use some instruction assistants.

2. Help teachers to develop continuous progress materials for pupils to use.

   a) Use the present, basic textbook--the author(s) provide a sequence, content, and suggested activities. Teachers doubtless will want to supplement the textbook with recorded explanations and tests for pupils to use to help their own self-appraisal.

b) Add "guidesheets" that tell pupils what they are supposed to learn and "worksheets" that tell them what to do--read, write, view, listen, discuss, practice, experiment, etc.

c) Make at least one "learning package" to understand better what more-sophisticated self-directing, self-motivating, self-pacing, and self-evaluating materials can do for pupils.

3. Help teachers to improve their methods in conventional classrooms:

a) Reduce the amount of time that teachers talk to the entire class to not more than 20 percent, and preferably less. Make this talk primarily motivational, only giving information not readily available elsewhere or making assignments otherwise not specified in writing.

b) Increase the quantity and improve the quality of independent study. Conventional independent study now is called supervised study in classrooms or work in study halls, libraries, laboratories, gymnasiums, and so on, plus homework--either covering assigned activities or special projects. Add a tape recorder or two to the classroom and a simple filmstrip and slide projector so pupils can listen and view as well as read and write. Add to the reading materials by having pupils bring materials from homes, offices, and so on. Make assignments more specific and provide alternatives. Provide self-testing materials. Encourage pupils to help each other.

c) Instead of the conventional (and almost useless) "recitation" or total-class discussion, divide the class into three groups for "small-group discussion" or into smaller "buzz groups." Teach pupils how to discuss and how to relate better to each other.

d) Improve evaluation by making less use of A, B, C, D, F (e.g., only for the six-weeks grade) and place more emphasis on what pupils actually know and can do. Compare each pupil with his own past achievement instead of against the group. Once in awhile, at least, evaluate something in the effective area.

C. Individualized Learning for Pupils

1. Divide the course into chapters, units, major sections, or similar arrangements, as suggested under the foregoing item 2a. Then encourage each pupil to complete the required learnings at his own pace. As each one completes the course, or a segment of it, permit him either to do a special project or to go on to the next segment. When he completes the course, allow him to take some other subject or activity for the rest of the year. If he can not cover the course in 9 months, permit him to take more time.

2. Abandon the conventional schedule for a week, once or twice a year, to permit pupils to study or work on subjects of their interest inside or outside the school--with appropriate accountability.

3. Do the same as in No. 2, using one day of each week--Wednesday, for example.

4. Reduce class meetings in some or all subjects from 5 per week to 4--or 3 or 2. Have no fear; pupils will do as well on standardized tests or conventional teacher-made tests. Pupils spend the time gained in classroom-resource centers under the supervision of instruction assistants or some of the teachers.

5. Introduce the changes suggested elsewhere in this article, expecially under D and E.

D. Alter Conventional Curriculum Patterns

1. Go through a part or all of one or more courses to separate the required learnings into a and b:

   a) The minimum which every pupil must complete to receive a "passing" grade.

   b) Additional requirements to earn specified higher grades.

2. Develop a series of mini-courses--electives which meet for six weeks, or whatever time is decided, so long as it is less than one semester.

3. Make special correspondence courses available as needed.

4. Schedule work experience or special studies in museums, galleries, etc., away from the school--with proper accountability.

E. The Use of Facilities and Money

1. Reduce overcrowding by introducing more independent study, large-group instruction (presentations), and small-group discussion vis-a-vis use of conventional classrooms which require more room per pupil.

    a) Remove a wall between two classrooms and substitute chairs for school desks (arranged in semi-circular fashion to face the presenter now stationed in the front, on the window side now covered by a curtain or green paint); this facility houses twice as many pupils as in conventional classrooms.

    b) Install two partitions in a conventional classroom to produce 3 small-group discussion rooms, substituting chairs in a circle for school desks; this arrangement accommodates 50 percent more pupils in the same space.

    c) Change classrooms into study and work centers for independent study; schedule more pupils for some supervised study and work in the community, with appropriate arrangements for accountability.

    d) Convert corridor, lobby, and cafeteria spaces into independent study areas; pupils can walk through such areas while other pupils are working, especially under flexible and individualized schedule arrangements.

2. Make better use of the potential talents of the professional staff:

    a) When a teacher retires or leaves, use the salary to employ clerks, instruction assistants, and general aides.

    b) Gradually increase the number of qualified adults that serve the pupils while reducing the number of certificated teachers, at the same time increasing the time that teachers have free from scheduled classes of pupils.

3. Use individual audio tape recorders and make 2 x 2 slides instead of using more expensive video tape recorders and film projectors--if funds are limited. Always investigate how to get the most benefits for the largest number of pupils with emphasis on individual or small-group use. No criticism of more expensive technological installations is implied; it is only a matter of priorities. Also, pupils benefit from personal use and from locally developed materials.

F. Evaluation

1. In addition to the A, B, C, D, F--or, better still, in place of letter grades for one grading period--report more accurately what each pupil knows or can do in one or two basic goals of instruction; this procedure requires that those goals are defined in behavioral terms.

2. Evaluate some special project, using as many affective goals as you wish, and indicate where the pupil's achievement falls on a continuum from one of the best the teacher has ever observed to one of the worst. Some illustrative goals are: creativity, persistence, use of human resources, use of material resources, value to others, and the like. Each term is defined and a mark placed on a point of the continuum:

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   Best Worst

REGIONAL CONFERENCE

A Study of the Comprehensive High School in Massachusetts

ALGONQUIN REGIONAL HIGH SCHOOL
Northborough, Massachusetts

Friday, April 10, 1970

AGENDA

9:30 - 10:00	Coffee and Registration
10:00 - 10:30	Report of Study - Dr. William C. Gaige and Dr. Lloyd S. Michael
10:30 - 11:15	Discussion about the Study
11:15 - 12:05	Position Paper - Dr. Kevin Ryan
	M. A. Columbia University; Ph.D. Stanford University; Associate Professor, School of Education, University of Chicago; Director, Triple T Program; Recipient, Alfred North Whitehead Fellowship, Harvard University 1970-71; publications - contributor to numerous educational journals and periodicals; co-author with Dwight Allen, Micro-Teaching; and author of Don't Smile Until Christmas (soon to be published).
	SUBJECT: "AFTER THE SLOGANS, WHAT?"
12:05 - 12:50	Reactions - Panel, Audience
1:00 - 1:45	Luncheon
1:45 - 2:35	Position Paper - Dr. Leon M. Lessinger
	Ed. D. University of California at Los Angeles; Callaway Professor of Education, Georgia State University; Associate U. S. Commissioner of the Bureau of Elementary and Secondary Education, 1968-70; Superintendent of Schools, San Mateo, 1964-68; formerly Chief Research Consultant for the California State Department of Education; served as a member of the Advisory Council of the President's Youth Opportunity Campaign and the Advisory Committee on the Education Professions Development Act; Author of numerous articles for professional journals.
	SUBJECT: "ACCOUNTABILITY: A CHALLENGE FOR OUR SCHOOLS"
2:35 - 3:20	Reactions - Panel, Audience
3:20 - 3:30	Summary

After the Slogans, What?*

by

Kevin Ryan

The Writer's Introduction

The opportunity to address such an important diverse group as this is quite rare. It is an event I've been contemplating and looking forward to for several weeks now. An audience of concerned high school principals, superintendents, teachers, parents, and school committee members is a broad and demanding audience. And, I will take as a measure of my success whether or not I've been able to articulate one statement that is offensive to each of the assembled groups. Right off, you should be offended, having to listen to someone's speech while he is lolling around in sunny Mexico. However, this is a picadillo compared to what I've foisted on the person I've asked to read the speech, Mr. Cooper. I've asked a good friend, the Godfather of my daughter, not only to read this to you, but also to standup afterward to your questions and intellectual hand grenades.

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As our society gets itself into deeper and more disturbing trouble, more and more people are turning their attentions to the schools. Although many of the worse problems of the society are reflected in the schools, there is the growing hope that schools will provide solutions and a way out of our myriad troubles. When the Russians shot into space a steel basketball called Sputnik, the high schools were expected to turn themselves into MITs and Cal Techs. We are confronted with a frightening drug problem at all levels in the society, and the schools are being asked to teach the problem out of existence. Racism is the American original sin. It is buoyed by almost every aspect in the culture. Instead of going to the economic roots of the problem or even to the second level problem of residential living patterns, the problem is handed on to the schools. The schools have been asked to bus the problem out of existence. What all these people, who are asking the school to take on all these extra jobs, do not seem to realize is that the school is a very fragile institution. The school's mission is of the highest importance, but it is not firmly grounded. There is little consensus about what should actually go on in a school. The school has wide, but very thin support. And, it has plenty of critics just waiting to sandbag it. Perhaps it is because the school is so near at hand and so much a part of everyone's experience, that it is being asked to respond to so many social conditions and ills.

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*Dr. Ryan's paper was presented by Dr. James Cooper, Assistant Professor of Education, University of Massachusetts.

To say that the school is a fragile institution is not to imply, however, that it should not change very fundamentally. Recently I read two provocative statements which bear heavily on the future of the public schools. The first reads, "What the future holds is a recasting of the entire educational system in the United States." The second statement deals more with the problem. "We sense intuitively that the first thoroughly televised generation in the history of the world cannot simply be passed into and through the same rigid institutional structure that its parents and even grandparents traveled." I find these sentences provocative not so much because of what they say, but who has said them. We have been hearing this kind of rhetoric for the last ten years. However, before it came from critics on the left like Paul Goodman or your own Jonathan Kozol or on the right from Admiral Rickover or some angry academician convinced that the young can be saved from mediocrity by a good stiff course in literary criticism. Not this time! The authors of these two statements are the nation's two top school officers, part of an administration elected by the Forgotten Americans from middle America. James Allen, the U. S. Commissioner of Education spoke to the recasting of the entire educational system. Secretary Robert Finch of Health, Education and Welfare addressed the stresses and strains of a new generation in contact with the rigid institutional structures of our current school system. What all of this says to me is that not only are the schools not doing very well, but that the word is out. The average American is aware of the problems. While this is frightening to some, we would realize that this is, also, a great opportunity for the schools. It is very difficult to reform the schools when the great majority of the people are rather satisfied with what is going on. The present discontent can become the impetus for a new leap forward in education.

To say that any fundamental change and schooling is intimately linked with in-service training is perhaps to betray a magnificient grasp of the obvious. Massive training and re-training efforts for teachers are needed if we are to reform the curriculum and renew the school. But one hesitates to even use the word "in-service." The term has tired blood. It has been tied too long to empty slogans like "the teacher as continuous learner." Hearing the term "in-service" conjures in the minds of teachers the annual September pep talk by the superintendent before they go into the combat year for yet another battle with the children. It brings back the echoes of a conversation right before the beginning teacher signs her contract, when she was told about all the friendly, supportive supervision she would receive during her all-important first year of teaching, a promise that would soon dissolve. Or it brings back memories of in-service days which were devoted to "professional growth," but ended up in a weird activity called "buzz groups." In-service training has such a poor record of unfulfilled hopes that it is hard for educators to continuously believe in it. This condition reminds me of G. K. Chesterton's comment on Christianity. "It is not that Christianity has failed, it is simply that no one has really ever tried it." We have never really tried in-service training.

In-service training, then, is a broad and elusive term. A way to get at our topic is to ask some questions of it. For instance, do teachers really need in-service? What are the problems with the way it is presently being conducted? Are there any promising approaches into in-service training? And, lastly, what can we here today -- this group -- do to improve in-service training in our schools?

The first question: "Do we need in-service training? Is it a very real question in a society that is struggling to meet many priorities? Or put another way, the question is, can we get along without in-service training?" Can we have quality education without attending to the training and education of our teachers? My answer to this is a resounding "No!"

First of all, high schools are confronted with a new student. He's better educated, but not necessarily because of the schools. The new student is what Secretary Finch calls thoroughly televised. He comes to school smarter. Or as Marshall McLuhan put it, "He interrupts his education to come to school." But I'm not at all sure that much of this apparent brightness stems from the fact that he knows more facts. I don't think he has any more systematic command of knowledge or that he a better problem-solver. However, the gap between what he knows about life and what the teacher knows is much smaller than it was even a decade ago. In some areas like drugs, the high school student probably knows much more than his teachers. It is estimated that between one-third to one-half of high school students have used drugs. I cannot imagine the percentage is any where near that among teachers. The same student and his peers are much less willing to passively accept authority. I don't think that it is because they are particularly anti-authority. Rather, they want to question the legitimacy of the authority that impinges on them. Those of us who for years hammered away at high school students about the importance of the question "why" are beginning to rue those days. This new student will not passively accept things he doesn't like. Last year, there were over 6,000 "incidents" -- ranging from arson attempts to political protests -- in the nation's high schools. All of these incidents are not simply the actions of "spoiled kids." Much can be attributed to young people who are deeply disappointed and bored by school. The implications of this for in-service training are profound. Most of us learned our profession in quieter times with more docile students. We need to catch up here. We need to learn in a very fundamental way who our new students are.

Second, we are moving into a new world, and whether we're brave enough for it is yet to be seen. Since World War II, we have seen profound changes in our society, and we have barely kept our collective heads above the water. But the pace of change is picking up. Experts tell us that by the year 2,000, the population of the world will have increased three-fold. Voyages to the moon will be normal and many will live in space in artificial satellite. Knowledge will be accumulated in electronic banks and transmitted directly into the human nervous system by means of coded electronic messages. Geneticists predict the scientific planning and shaping of personalities. Families will own computer-robots to do all menial household work. There will be extensive use of mechanical aids and substitutes for human organs, senses, and limbs. There will be substantial increase in life's expectancy and the postponement of aging. We will have some control of weather and climate. Hereditary and congenital defects will be greatly reduced. This is not the world of Buck Rogers. It is the world our children will inherit. Our best estimate is that the children who entered kindergarten this year will be about 35 when all of this is a reality. But they and we have staggering problems to face along the way. Poverty is expanding at the same time that expectations for a better life are arising. This augers for more war, revolutions and general international instability. At home we have the cancer of racism that eats at our souls. Unrestrained private enterprise and public apathy are on the verge of upsetting the delicate ecological balance and sending us into a spiral of famine and pestilence. Then there are the second-order problems of adjusting to the sexual revolution, providing massive job retraining as we enter an era of automation and cybernetics. And what will be the affect of all this on the human spirit? After tranquilizers, what? Already mental illness is our major health problem. But the question we must answer is what will be the school's response to this new world? Are our schools preparing children for the future? Or are we ignoring the future and making minor adjustments on a sterile, outmoded curriculum?

A third issue that is related to our question of "Do we Need In-Service Training?" is our present system of teacher preparation. While there have been some promising developments in the last decade, pre-service teacher education is a national embarrassment. It is understaffed, under-financed, and under-conceptualized. If a teacher succeeds in a classroom today, 90% of the credit goes to him rather than the program that trains him. But this is not surprising in a culture that spends 5 or 6 times more on professional preparation of a doctor, who ministers to the body, than on a teacher, who ministers to the human mind and spirit. Even if preservice training improves dramatically, and I think it will, much of the advanced training of the beginning teacher must be done in the schools with the strong support of experienced professionals. In brief, then, the present state compels us to provide effective on-the-job training for the beginner.

Fourth, there are new ideas in education and we need the means to bring these ideas before teachers. For all our discontent and the public criticism of the schools during the last decade, the sixties have been years of great creativity in education. It has been a time of daring innovation and experimentation. However, these ideas and programs have not been widely disseminated. And, certainly, they are not widely practiced. I'm thinking of such things as flexible or modular scheduling which is an attempt to break us out of the rigid, lock-step pattern which is so evident in our schools. Or individualized instruction with its emphasis on independent study and the student moving at his own rate. And programs like the Parkway Project which takes education out of the narrow confines of the school building and makes an entire city into an environment for learning. Or the non-graded school movement. Or teaching by television which we've seen done with such flare on Sesame Street. Or the emphasis in the new curricula on the inquiry technique. Some of these are old ideas but they have come back to us with new vitality. We need to find ways to expose teachers to these new approaches to teaching and learning. They have to have the opportunity to work through them, become familiar with them and, therefore, be in a position to truly judge their value. Right now, to most of us, these exciting ideas are like the term "in-service training." They're little more than catch words and slogans.

Fifth, teachers need in-service training if they're going to stay alive intellectually. This is particularly true of secondary school teachers who are teaching a discipline. We continually underestimate the physical and psychic drain of teaching. Most high school teachers spend more hours teaching in one day than the majority of professors at my university spend before classes in a week. Further, high school teachers have more extracurricular and clerical duties than university professors. It seems, too, that a very good case could be made that teaching on the high school level with its ever-present problems of motivation is much more demanding than on the university level. Given all this, we make few provisions for the teacher to stay on top of his field, and to be continually thinking of new ways to engage his students in the study of his discipline. We've given high school teachers the staggering job and provided them with fewer resources to grow and develop intellectually. It is no wonder that there are pockets of anti-intellectualism on our faculties. The very people who should be exemptors of the life of the mind have no opportunity to attend to their minds.

In-Service Training as It Is

Our second major question is "What are the problems in the way in-service training is presently being conducted?" Several years ago, as a graduate student at Stanford University, I was in a seminar with Robert Bush in which we studied this question of in-service training. We canvassed many teachers and principals to get a sense of what was going on in in-service training. One image provided by a classroom teacher really seemed to summarize what we found. This teacher stated, "When I think of in-service education, I have the impression of mosquitoes nibbling at billiard balls." I read this to mean that we have hard, tough problems confronting us in the schools and our attempts at solution through in-service training are rather harmless and flitty. Many may be annoyed with this rather cavalier dismissal of our in-service training efforts. They think of teachers having summers off to study and refresh themselves. Then there are the in-service training days. And the special late afternoon and evening courses offered by colleges and universities especially for teachers. And the free time during the teaching day. And the curriculum specialist and supervisors provided by the schools for the on-going training of teachers. What about all of this! While not for a moment questionning the potential value of any of these means of increasing the effectiveness of teachers, they are either not working or they are not enough. Few men could afford not to work in the summer. Evening courses are frequently irrelevant to the real needs of teachers or the teachers themselves are too tired at the end of a working day to seriously engage in sustained study. Free periods are consumed in frantic efforts to stay on top of teaching responsibilities. Often, the curricula and supervisory help never get to the people -- the people who need it most.

There are two problems which vitiate the efforts mentioned above. First is the transient nature of the teaching profession. Ours is a swinging door profession. Half of the teachers who entered the profession last September will have left teaching by a year from June. There is a fifty percent dropout in a two-year period. Obviously, many teachers entered the profession with a relatively low level of commitment. Teaching is an easy occupation to get into and an easy occupation to drop out of. This condition dissipates the trained resources which are available. Also, it is difficult to get much enthusiasm to support in-service training for such a transient group. The second problem deals with the nature of in-service training. Simply stated, we put too much faith in words. We think that simply talking at people about new instructional techniques and methods is enough to change their behavior. The little we know about modifying human behavior should make us realize that talking alone rarely brings about change. People have to be motivated to change. They have to have a very clear idea of what is entailed in the change. They need opportunities to tryout newly discovered skills and strategies. They need encouragement and support. However, our normal approach -- and we university professors are the worse offenders here -- is to announce how something should be done and then step back, waiting for the magnificient change.

What Can We Do?

What then can we do to break into this circle of ineffectiveness and inefficiency? Or put another way, what can we do to overcome the teacher obsolescence problem? I am reminded of Samuel Gompers', the pioneer labor leader's statement when asked by the frustrated industralists, "What do you want, Mr. Gompers? What do you really want?" Gompers replied "More!" However, our answer to in-service needs should be "More and better!" I believe our greatest problem is that we, as a profession, settle for crumbs. Teachers and the communities that support them are trapped in a cycle by low expectations. Education can learn a great deal from the military and industry. The armed forces are continually retraining their personnel, not only through combat exercises, but also through a vast network of service schools. The major industries, too, are allocating large portions of their annual budgets for the education of their personnel. IBM is said to be presently devoting 30% of the time of its employees, from executives to technicians, to training and re-training. And, again, they're only in the business of making machines.

More specifically, we need to give much more attention to the educational and training needs of the career teacher, those who have demonstrated that they will be staying in the classroom. These experienced teachers are frequently the forgotten men and women of education. Given the present demand for highly qualified teachers, it does not seem unreasonable that every four or five years teachers return to the universities or special centers for a semester or perhaps a full year of advanced work. Also, the Summer Institute Programs should be expanded for many more teachers and for teachers of all subjects. It is imperative that teachers should be able to attend without having to make any more financial sacrifices. We can learn from the recent experience in Japan that has helped revolutionize the teaching of science there. To keep teachers abreast of the developments in the teaching of science, the Japanese have formed local science education centers that draw teachers out of the schools and retrain them for periods from as short as one week or for as long as a semester. While they're away at the centers, they are replaced by special teams of travelling teachers who have been previously trained at the centers. All of what the regular teachers study at the center is immediately applicable when they return to their classroom.

This idea of training centers or complexes is beginning to attract a great deal of attention in this country. The American Association of Colleges for Teacher Education and the Office of Education are in the process of putting together three prototype training centers. Their long-range plans are to have over a 1,000 centers scattered around the country. The plan is described in a recently published book entitled Teachers for the Real World, which B. O. Smith and Dean Saul Cohen of Clark University had a major hand in writing. A training complex will be an institution that stands, somewhat as neutral ground, between the public school and the university. Based on the premise that teacher training is difficult to do effectively in a university where children are such a scarity and that the public schools are too absolved in their primary job of educating the children, the training complex will draw on the strengths of both institutions. It would also involve that missing ingredient in teacher training, the community. Its function will be to do advanced teacher training. It would draw heavily on the new technological equipment, such as videotaping equipment, and kinescopes. The staffs and training complex participants will develop courses, seminars and workshops in subject matter fields and in new instructional approaches. A function of the training complex will be to provide specialized training for teacher aides and other auxiliary teaching personnel.

Perhaps, the most crucial in-service training, though is the introduction of new teachers to the classroom. Earlier, I brought up the disturbing problem of the high turnover and dropout rates in teaching. Given the fact that so many leave so fast, we might be tempted to try to get as much as we can out of the beginning teachers and not waste precious resources on them. But this is exactly the way to keep this malady going. While I'm aware that there are many reasons for teachers leaving the profession, I am personally convinced that large numbers of people leave after the first and second year because they feel they have failed. They receive no sense of satisfaction, no sense that they have accomplished anything, so they move on. We should take an entirely different tack, one that attempts to insure the success of the beginning teacher. Specifically, we should make sure that the beginning teacher has no more than two preparations, that his classes are not filled with what we euphemistically call discipline problems, that he has not more than four classes. Experienced teachers that are particularly skillful in working with younger colleagues should be given time off to work very closely and systematically with a group of four or five beginning teachers. These experienced teacher-team leaders should observe their classes, frequently videotaping them for replay-discussion conferences. Further, community people should take a more active role in introducing beginning teachers to the community. I'm not talking about a one-shot luncheon by the Rotary Club, but a planned program so that by the end of the first year the new teacher not only knows the local community but feels like a part of the very fabric of the community. This kind of special attention and training should go on for at least two years. If this were a regular part of our in-service training, not only would we have better and more responsive teachers, but they would be staying in the profession longer.

At the University of Chicago we are presently engaged in an experimental program to train in-service leaders. It is part of a new Office of Education project entitled "TTT" for Trainers of Teacher Trainers. Teachers from two districts in the Chicago Public Schools have been selected by their fellow teachers to function in a role we call Resource Colleagues. Their function is described by their title. They're simply to be teaching resources for their colleagues. After a year of training in new curricula ideas, instructional skills and teacher training approaches, they go back to their schools to provide a variety of services to teachers. One of their main functions is to work with beginning teachers and make sure they have a successful introduction. They also work with the principal and faculty committee to put on in-service programs. Another part of their job is to scour the university, the Board of Education staff and the community for people who have something important to say to teachers or children. Another role of growing importance is to act as a mediator between teachers, who are becoming more threatened by community people and angry community people who feel immense dissatisfaction with what is going on in schools. Resource Colleagues will not have classroom responsibilities, but they will do a good deal of demonstration teaching. In essence, they are teacher trainers in residence. I might add, too, that having these successful, experienced teachers available to our pre-service teachers at the University has greatly enhanced our pre-service program.

I have been able only to touch on a few ideas and movements. These examples are meant to be suggestive of some of the things presently being done. I have stated them not as instant solutions, but as appetite whetters.

What can we do about it?

One of the questions we started with is, "What can we do about in-service training?" I must change that question to "What can you do about your in-service situation?" My reason for the change is simple. I can do nothing for the in-service problems in your schools. I could waste our remaining moments with elaborate sets of prescriptions which may or may not be solutions to the problems in the school with which I work in Chicago. Or, I could try the buckshot approach of shooting at you two dozen dubious panaceas in three minutes. I believe, however, that it would be more beneficial if I made some suggestions which you might translate into action.

First, we all need a new set of expectations about what it takes to train a teacher and what a teacher needs to sustain him during his professional life. Presently, we are trying to do this crucial task on the cheap. We must spend much more of our time and energy and money on this problem or it will continue to eat away at our effectiveness with children. Instead of the present condition where we are spending something in the neighborhood of one percent or less on in-service training, you should be asking for five percent of the school budget.

Next, you need to realize how important you are to a solution of this problem in your own school. As I understand it, groups of four from several schools have been sent here to think about in-service training. You represent, in a sense, different constituents -- all of whom I presume hope some good comes out of this meeting. What I am suggesting is the obvious, that the four of you take this on as your special problem, not just for today but until you have reached some goals. One thing you could do is become a question-asking group. Superintendents can start asking questions of their staff. Teachers of their colleagues and principals. School committeemen of their constituents. Parents of other parents. You might ask, "What exactly are we doing in the name of in-service?" "Are our in-service efforts having a positive effect on classroom instruction and the lives of our children?" "Are our teachers satisfied with the in-service program?" "Are they involved in its planning?" "What are parents and the community generally contributing to the in-service program?" If these questions get little reaction, I suggest you read a marvelous paper entitled "Education for Survival," by Michael Scriven, of the Philosophy Department at the University of California at Berkeley. I am sure if you wrote him there he would send you a copy. In his paper, Scriven poses to the American high school one telling question after another. The questions deal with what students and the total society need to know and be able to do in order to survive. The questions are the right ones and the very fact they are raised will force people to think hard about their high schools. While the questions relate to what should be taught in schools, it is an easy step to "How do we help teachers treat these issues effectively?"

Question-asking and fact-gathering are necessary first steps, but they are not enough. If you want action, you need to plan, you need to be strategists. We should not kid ourselves: getting basic change in an in-service program will not be easy. Good ideas and good intentions are not enough. Anyone who is serious about making change in an in-service program can benefit immensely by a fine article by Hubert Coffey and William Golden. It is the classic in the area, and it appears in the National Society for the Study of Education's (NSSE) Yearbook for 1957. The entire yearbook is devoted to in-service training, and while there may be much of value to you in it, the Coffey and Golden article is a must. In a very practical and tough minded way, they deal with the process of bringing about changes in an institution's in-service program.

Earlier, I mentioned the new student the school is struggling with. I have tried to indicate that the present way of educating, that is, having thirty students in desks facing south and the teacher in front facing north, is dead. It is inconceivable that we can develop an instructional program more appropriate to these students than the one we are presently offering without seriously involving students throughout the in-service program. I am suggesting that your high school students be fundamentally involved in your in-service efforts. They, too, should be questioned, be on committees and have an actual part in the in-service efforts. Anyone who says that high school students are not vitally concerned about their school and their educations and do not have much to say about the curriculum and the instruction they receive simply is out of touch with today's students. Instead of making them the silent recipients of, worse, the silent enemy, you must tap into this most important source of energy and ideas. If you fail to do this you are building in destruction.

One final word. You are all very busy people, and in-service training is not the only problem with which you are concerned. Therefore, it is important that you confront the issues today, before the groups breakup and go back to business as usual. If you leave this place today without beginning to think with your group about these issues, may the wrath of Cotton Mather fall upon your head, and may you feel the hot breath of the Salem ladies on your neck, and may your ears continue to be assaulted by speeches on in-service training.

Accountability: A Challenge for Our Schools

by

Leon M. Lessinger

I. What is Accountability in Education?

All of us in the business of education need to be reminded that by virtue of accepting employment we have promised each family sending a child to school, each community paying our salary and each student receiving our services that in so far as we can possibly deliver, we shall have each student learn the tools and insights he will need to be successful and happy in this complicated world.

Accountability refers to the delivery of these promises. It is a very direct commentary on our professional integrity. There is an excellent test of this integrity -- a sort of educational litmus paper. It consists of the answers to a set of queries: Can the student do something with competence because of an experience we have provided? Can someone else besides us replicate the conditions we say produce the intended student behavior and have it occur independent of us? Will the student's actual performance meet the standards we promised? Accountability in education then, means answering to the public for results intended. In the words "answering to the public" and "results intended" lies the heart of the concept.

The house of education has many rooms. Some may prefer one or another of the rooms but all form the edifice. We can identify the rooms by noting where dollars appropriated for education are spent. In the main, the dollars are spent on persons, materials and space to carry out sets of objectives. These sets of objectives are the specific means of identification. Thus we find sets dealing with basic skill acquisition, general learning, life support services such as medical care and food, counseling services, administrative services and general support services for the school as an institution such as transportation and maintenance. Every dollar theoretically is spent to produce intended learnings. These intended learnings are the Alpha and Omega of formal education. There are additional benefits besides those intended. There are unhappily losses which are not intended. For some students the formal system may produce more loss than benefit.

The intended results aspect of accountability, refers to that learning which was planned. Learning is equated by most serious students of the phenomenon with change in behavior. A person is said to have learned when there is a difference which can be noted between what he could do and what he now can do that can be associated with some external circumstances. The only way learning can be detected is through some response of the learner. This response, be it speech, writing, acting or responding to selected stimuli in certain ways is the "answering" element of accountability.

Up to the present, the answers, have mainly been the province of the professional educator. Accountability for intended results in education broadens this province to include the public. It does this through the requirement of external review. Let us explore this essential aspect of accountability in education.

Every organization in society receiving and spending funds undergoes mandated fiscal reviews usually by certified public accountants. This applies to education as well. Every school system in the United States is audited annually to note its fiscal integrity -- its financial performance as promised in its annual budget. The audit is always done by a competent third party.

Outside review is not limited to fiscal affairs. Whenever society has very important decisions to make, decisions involving crises, crimes, changes in policy to name a few, independent agents are solicited. Society has an impressive list of such agents and techniques for their use. One thinks quickly of grand juries, Congressional hearings and commissions. The use of the third party review in science may serve as the best example of this essential societal principle.

Science relies completely on the foundation of outside review and replication. Independent verification is synonymous with science. Literally, nothing is established in science until and unless it can be demonstrated by someone other than the one who claims discovery or invention or insight. To establish something in science the practitioner must describe the results, the conditions that produce the results and the standards used to judge the results; someone else replicating these conditions must be able to produce those intended results which meet the standards.

There is an important element in engineering called feed-back. This same element is basic to learning. Without knowledge of results there cannot be improvement in learning. Accountability incorporates this notion of feedback, of public report. It insists that intended results be replicated by qualified persons external to the producers and that these results be in the public record. This aspect of accountability is served through the use of independent educational accomplishment auditors described in another portion of this paper. American schools are stewards for the community. They serve and are accountable to the citizenry and to their States. Ultimate power and direct policy determination is not held by professionals. Since the public served is actually many publics including students, parents, legislators, and taxpayers to name a few, a variety of data is developed, reviewed and reported by the educational auditors.

II. Why is Accountability an important new notion in education?

Our survival and enhancement as individuals and as a nation is so intricately bound up with services and competences of organizations, impersonal bureaucracies and strangers that the subject of keeping promises has become a central issue of life in a free society. In the early days of our republic popular custom recognized simpler ways of pledging faith than contracts and extensive negotiations. With strong religious sanctions against breaking one's word, a handshake was enough to bind a bargain. The delivery of promises was a relatively easy thing to monitor and failure to deliver could be redressed in a rather direct manner. Things are different now. Many young people today allege hypocrisy when they match ideals -- promises -- against reality. Accountability in education is a response to the general duty of keeping promises in a complex yet freedom-loving society. Its quick spread and general acceptance in principle may be explained by both the felt need and the sense that the concept can successfully address that need in the critical area of delivering intended educational benefits to children.

The American education system today is experiencing the most sustained, diverse, widespread, and persistent challenge ever to confront it. The criticisms no longer center solely on alleged lack of responsiveness, middle class bias and the like but on competence. This is a mortal challenge. For if it can be established that schools lack the competence to achieve results with any other than those from certain homes and areas where the family is the most critical element then the system like the emperor stands naked. Both critic and supporter when analyzing the performance of many city school systems for example and the problems of strikes and student unrest, agrees that something has gone wrong and that corrective action is needed. Nor does this imply by all that the school is responsible. Over the past half-decade, Congress and State legislatures have responded to this growing public concern by providing additional funds, but are increasingly dismayed that puzzling problems persist. Recently, this dismay has crystallized into refusals to vote additional monies until we learn "what works" or see to it that the money produces results.

In principle, the American educational commitment has been that every child should have an adequate education. This commitment has been stated in terms of resources such as teachers, books, space, and equipment. When a child has failed to learn, school personnel have assigned him a label -- "slow", or "unmotivated", or "retarded". To move toward accountability, our schools must assume a revised commitment -- that every child shall learn. Such a commitment includes the willingness to change a system which does not work, and find one which does; to seek causes of failure in the system and its personnel instead of focusing solely on students; in short, to hold themselves accountable for results in terms of student learning rather than solely in the use of resources.

If schools are to be accountable for results, a new approach to the basic mission of the schools is necessary. In the first place, the focus must shift from teaching to learning. Second, the schools will cease to merit credit solely for their ability to screen and sort in a rutted roadbed toward college or the discard pile. Third, a technology of instruction based on specific learning objectives will start to build. Fourth, striking changes will be made in the curriculum. Finally, a rational relationship may be established between costs and benefits.

III. Engineering Accountability into Public Education

Accountability is the product of a process. At its most basic level, it means that an agent, public or private, entering into an agreement to perform a service, will be held answerable for performing according to agreed upon terms, within an established time period and with a stipulated use of resources and performance standards. This definition of accountability requires that the parties to the agreement keep clear and complete records and that this information be available for outside review. It also suggests penalties and rewards; accountability without redress or incentive is mere rhetoric.

Performance contracting is the process for which accountability is the product. The idea of contracting is older than free enterprise. Its appeal to both liberals and conservatives revolves around its attention to two things that leaders agree are desperately needed in education -- quality assurance and knowledge of results.

Seen from the federal level the process works like this: A public authority grants money to a local educational agency to contract with private enterprise to achieve specific goals within specific periods for specific costs. The money is targeted at pressing needs which are not being adequately met, such as: drop-out prevention among disadvantaged groups, bringing the underprivileged and undereducated up to competitive educational levels, helping the students whose mother tongue is not English perform as well in regular school subjects using their "native" language as those whose mother tongue is English, providing vocational, adult and remedial schooling, et cetera.

From this vantage point accountability appears to be merely a passionate embrace by education of a private enterprise methodology for getting things done, a methodology, incidentally, already in use by school systems for years. Any superintendent of schools or business agent for example, can quickly show that performance contracts have long been a critical element in school operation and maintenance. The use of performance contracts to achieve accountability is not new to education. It is the extension of this idea into the realm of learning through a particular process called here "educational engineering" which represents what some in Congress are calling the "coming revolution in American education".

Since World War II several fields have been developed to enable managers of very complex enterprises to operate efficiently and effectively. These emerging fields of knowledge and practice are commonly known as: systems analysis, management by objectives, contract engineering (including bids, warranties, penalties and incentives), logistics, quality assurance, value engineering and human factors engineering, to name a few of the more important. If to these are added instructional technology and modern educational management theory a new and valuable interdisciplinary field emerges. This body of knowledge, skill and procedure can be called educational engineering. It is the insights from educational engineering that make possible performance contracting to achieve accountability for results in education.

The question might well be asked, "Why the term engineering to couple with education? Why more apparent dehumanization?" It is not appropriate here to treat this question at great length. But it may be helpful to note that engineering has traditionally been a problem-solving activity, a profession dedicated to bringing the ideas and resources of technology to the resolution of real world difficulties and opportunities. While it is true that the teaching/learning environment differs from the world of business and industry, some rationalization of the two sub-cultures may be beneficial. A major objective of educational engineering may very well be to arm educational practitioners with both the technological competence of essential engineering generalizations, strategies and tools, and the professional practice of a successful instructor or educational manager. From this point of view educational engineering can be a symbiotic art -- a marriage of humanism and technology. It is this possible symbiosis that makes performance contracting for learning accomplishment feasible. The concept of accountability may appear more sharply at this point by illustrating the application of one educational engineering process to achieve results in the basic academic skills.

This accountability process can be engineered as follows:

(1) The local educational agency employs a management support group whose members have competency to assist them in political, social, economic, managerial and educational matters. The relationship between the management support group and the local school leadership resembles that of long-term consultants on a retainer account.

(2) The management support group works with staff, community (or other groups as required by a particular local situation) to produce a Request for Proposal (RFP) which is a set of specifications indicating as clearly as possible, the service to be performed, the approximate amount of money to be invested, the constraints to be observed, the standards acceptable and related matters. The RFP is the local education agency's blueprint for action to meet pressing priorities.

(3) The next stage of the educational engineering process occurs when the RFP is set out to bid. The pre-bidding conference becomes the forum for educational exchange. Here a rich and varied communication through competition occurs between elements of the private and public sector. The bidding process is flexible to the extent that allowance is made by local education agency officials for new insights and better elements to be incorporated into a revised RFP.

(4) Following the bidding conference a revised RFP is issued and actual bids are entertained. The management support group assists the Local Education Agency in operating the conference and reviewing the bids. The local board "hears" the top bids in a manner similar to the process used in the employment of an architect.

(5) The local school board selects what it considers to be the best bid and enters into negotiation for a performance contract with the successful bidder. The management support group assists at this stage.

(6) Concurrently with the signing of the performance contract an independent educational accomplishment audit team is employed by the local education agency both to monitor execution of the performance contract and to provide feed-back to the LEA to certify results for purposes of payment.

The "physiology" of an educational engineering process has been described. Its "anatomy" may now be useful.

The Performance Contract is the managerial tool to assure the achievement of results, while encouraging responsible innovation. The approach is simple in concept although complex in actualization. With technical assistance, the learning problem is analyzed, and a delineation of achievement outcomes to be expected is specified. A request for proposals (RFP) is developed and sent by the Local Education Agency (LEA) to potential contractors who have demonstrated competent and creative activity in the specific and related fields. The RFP does not prescribe how the job must be done but does establish the performance, financial, administrative, and legal parameters of the operation. The RFP requires that the bidder guarantee specific results for specific costs. The confidence that the bidder has in his approach is reflected in the level of the guarantee, the social practicability, the time, and the costs indicated in the bid he presents.

The program to be bid is described in the contract including the specified number of students. Incentives are provided for the contractor to bring each child up to specified levels of performance, at least cost. Provision is made in the performance contract to develop a program for which the contractor will guarantee results.

After the demonstration period is completed and all relevant costs, procedures, achievements, and performance data have been validated, the contract requires of the contractor that he will guarantee an equivalent level of effective, fiscally responsible program and then, on a "turnkey" basis, the LEA incorporates the instructional program into the school after it has been proven feasible. Thus performance contracting is a capability-creating-resource for public education!

The Management Support Group (MSG) is the catalytic and buffer agency which provides not only technical assistance to the school, but a communication link between those determining priorities and the school system which is developing program proposals. The group has access to new developments in the field, especially those in industrial and governmental sectors, and assists the LEA in developing the RFP to assure that conditions and constraints in the RFP do not preclude but actually encourage the opportunity for these new developments to be demonstrated. Furthermore, it plays the role of a buffer between the LEA and community groups, as well as between the LEA and potential bidders. It also provides assistance to the LEA during the proposal evaluation and operational stages on an "as-needed" basis.

As operational results during the initial stages are determined, the group provides program planning assistance to the LEA so that the instructional programs are effectively and efficiently "turnkeyed" into the school. In this way, the school can achieve the potential benefits which will have been demonstrated. Too often school systems either adopt programs not proven or acquire techniques proven in pilot programs only. Later they may discover that the results in terms of costs and performance increases, erode over time. The MSG can provide critical technical assistance to the school officials during the adoption of "turnkey" process, ranging from projecting administrative costs required within the system to the implementation of performance budgeting techniques which will insure continuing quality assurance.

The Independent Education Accomplishment Audit is a managerial tool to assist quality control of the program. By reporting on results, this procedure encourages responsibility, creating a need for clearly stated performance objectives and an accounting for the costs incurred in achieving results. Just as the performance contract allows the school to monitor the contractor, the IEAA is designed to assure the lay board and the community they represent that the school leaders and the contractors are doing their work. The independent accomplishment audit, first introduced through ESEA Title VIII by the U. S. Office of Education is the first practical recognition that education is an important investment in human capital. Just as fiscal audits adopted universally in public education virtually from the beginning of the modern school period certified that public school resources and expenditures were in balance, the IEAA certifies that investments in human beings have been successful according to stated goals and demonstrated accomplishment.

The patterns of funding the educational engineering process are critical for the flow of Federal, State, and local funds must encourage the creation and responsible control of the process components. Budgeting must be based on clearly defined criteria for "go" or "no go" decisions to be made at the end of each discrete stage. Three-stage funding as a facilitating device consists of resources and the timely freeing of previously "ear-marked" funds for other new starts or operational programs.

The Texarkana Model

The August 13, 1969, Congressional Record included remarks by Congressman Roman C. Pucinski, Chairman of the House Subcommittee on General Education, about an educational experiment launched in Texarkana, U.S.A., described in an article by Jonathan Spivak, of the Wall Street Journal. Under the heading, "The Coming Revolution in American Education", the Congressman states, "The unique aspect of the Texarkana experiment is 'guaranteed performance'." The contractor must promise to bring educationally deficient Texarkana students up to normal grades for their age levels at a given cost and in a given time -- or else pay a money penalty.

Advantages of Performance Contracting

The advantages of performance contracting are inherent in the nature of the serious problems that confront education today.

First, it facilitates the targeting and evaluation of educational programs. Many good instructional programs have not been given the opportunity to demonstrate their potential due to the lack of an effective delivery system at the school level. The recent critical evaluation of Title I of ESEA notes this operational inadequacy. The performance contract approach, which utilizes a separately managed and operated center with separate accounting procedures, fosters the objective evaluation of educational results and also the managerial processes by which these results were achieved.

Second, performance contracting for instructional services could introduce greater resources and variability into the public school sector. Now, new programs are being offered to the public outside the school system; the process of fragmentation and competition has begun. Several large corporations are establishing franchise learning centers across this country. One company, for example, has at least forty centers operational in the major cities of this country; ten others are establishing centers in other cities. Performance-type contracts to improve student achievement in compensatory education are usually enacted between the parents and the franchisee. The dollars which they pay for schools' operations. As these franchised centers expand, it is conceivable that parents will begin to refuse to pay property taxes through continuing to defeat tax and bond issues. The performance contract approach, on the other hand, would allow the school system to utilize the services and products of a particular firm or firms so that the public schools can be renewed through a "turnkey" process. Performance contracting can be looked upon as a means to foster and catalyze institutional reform within a school system, allowing school systems to continue operations and to become competitive with private schools and franchised learning centers.

Third, the performance contract approach allows a school system to experiment in a responsible manner with low costs and low political and social risks. Both school officials and critics have expressed the need to determine the relative cost-effectiveness of various instructional methods in contractor-operated centers, as well as upon incorporation into the particular schools. The performance contract approach not only allows for determination of these costs and benefits but also provides the bases for projecting initial adoption costs as well as operating cost when the system is implemented into the schools. In this sense, the approach allows lay board members to make rational choices when choosing new credible techniques for extension into standard classroom practice.

Fourth, the new "Bill of Rights in Education", giving the right of every child to read at his grade level, will undoubtedly place great burdens upon the schools' resources. If the Nation's schools are to make this principle a reality, they might want to consider using performance contracting for the development and validation of new reading programs. Upon successful demonstration, the school can then adopt the program or portions thereof. The success of these programs, that is, the child's ability to read, will in large measure depend upon the ability of the school to skillfully design and execute performance contracts and then effectively incorporate the project into its normal operation.

Fifth, according to the most recent decision rendered by the Supreme Court, school systems across this country will be required to develop effective desegregation plans which will provide not only equal opportunities, but also equity of educational results. One of the major fears of the white community (rightly or wrongly) is that "black" or "brown" children, upon integration, will hold back the progress of their children. Through the use of the performance contract approach, many of the previously segregated children will have their academic deficiencies, if any, removed on a guaranteed achievement basis while they are attending the newly-integrated schools. From this point of view, performance contracting would allow communities to desegregatein a nondisruptive, educationally effective, and politically palatable manner.

Finally, the approach creates dynamic tension and responsible institutional change within the public school system through competition. Leaders will now have alternatives to the traditional instructional methods when negotiating salary increases; performance contracting and its variant, performance budgeting, permits the authorities to couple part of a salary increase on increases in effectiveness. As the Dallas Morning News has stated: "Taxpapers can now tie results to tax dollars expended." Boards of Education can establish policy and choose among alternative instructional programs.

The Management Support Group

"The Catalyst and Buffer Mechanism" first introduced in Texarkana is the concept of the management support group. The MSG is new to education. Its precedent was established in the defense-aerospace area when, in the mid-50's, the Aerospace Corporation was created to act as a buffer and technical assistance team between the Air Force and weapons systems suppliers for the Air Force. The Aerospace Corporation's major functions were to develop programs, design requests for proposals based on performance specifications, assist in evaluating proposals, and provide management services to contractors. The major functions of the management support group (MSG) in education under the concept of educational engineering would be in the following areas:

Functions provided by MSG

1. Program planning and development assistance. School systems generally lack such a management capability, or, if such is available, "day to day" operations prevent effective utilization of that resource. Moreover, an outside group provides new insights and a different perspective in analyzing educational and other problems and in developing alternative solutions. For these and other reasons, it is advantageous for the school to have an MSG develop the RFP. The MSG could assist in the following ways during program development and planning:

   a. Analyze and determine the community's educational needs and the desired levels of student performance.

   b. Conduct program definition phase studies and determine sources of funding.

   c. Develop the RFP and experimental design to be used for "turnkey" purposes as well as national dissemination.

   d. Develop and recommend "program change proposals" on a continuing basis during the initial stages.

   e. Develop means for gathering and maintaining political and community support for the program during all phases.

   f. Contact potential bidders in the education industry and R & D laboratories to insure that the latest innovative techniques are considered and are encouraged for application by the direction and flexibility allowed in the RFP.

g. Determine the qualified bidders and send them the RFP.

2. Project management assistance. Too often, proposals are developed by outside groups who curtail relationships with the school once the contract has been awarded. The management support group has to provide extended and sustained services in the areas ranging from establishing the project management office to the development of evaluation techniques. The project management services would be in the following areas:

   a. Develop a multi-year management plan for the conduct of the demonstration and "turnkey" effort, including an administrative system for the LEA's project management office.

   b. Conduct, when appropriate, pre-proposal development and bidders' conferences with all interested parties.

   c. Establish a proposal evaluation procedure and assist in the evaluation by presenting strengths and weaknesses to the LEA.

   d. Continually evaluate the contractor's progress and assist in contract renegotiations as required.

   f. Manage pilot programs when specifically requested to do so by the LEA.

   g. Analyze the administrative and managerial changes required when the techniques proven in pilot programs are integrated into the school system. This "turnkey" phase is critical to overall success and requires careful analysis and program planning and budgeting.

3. Linkages for communications and coordination. As an unofficial advocate of change and an ombudsman for the public interest, the MSG can provide an effective, disinterested, and politically palatable linkage between Federal, State, and local agencies so that priorities and program directions are coordinated. Because many firms of unknown or questionable reliability will be entering this newly-created multi-billion dollar market, the MSG is a necessary mediator and "honest broker" between the firms and the school systems. At the community level, the vested interests of powerful groups and important decision-makers must be determined. Here, the MSG, acting as a buffer between the LEA and these interest groups, both within and outside the school system, can obtain such information in an effective and politically advantageous manner (e.g. the superintendent could point to the MSG as a scapegoat if specific ideas or recommendations are not accepted by the Board). The MSG can provide an on-call, as needed, manpower pool during planning and implementation. It can hire potential school employees

in order to allow officials to see them in action. Moreover, the MSG has access to consultants around the country, and on short notice it can provide their service without having to go through cumbersome bureaucratic procedures.

In short, the politics of experimentation where private industry, local schools, and the Federal government are all involved creates the need for unofficial "advocates" and "buffer mechanisms" to protect politically all parties concerned, while insuring that the project does in fact become a reality. The success thus far in the Texarkana project, which was the first to use the MSG is noteworthy:

a. Within nine months, a radically innovative concept acceptable to three districts in two states was conceived for multi-year funding and was in operation ten days ahead of schedule with preliminary results indicating success beyond normal expectations.

b. A new venture was initiated with private industry, despite some experts' prediction that no firms would bid. To the contrary, 42 firms attended the bidders' conference and 10 firms submitted proposals.

c. A cost-effective program (e.g. "a dollar an hour guaranteed education") run by an outside private firm, yet accepted by all elements within the school system, promising early and effective adoption was accepted.

d. A project is operating which has the support of responsible citizens regardless of their political persuasion and the interest of media ranging from the Washington Post to the Dallas Morning News.

Independent Educational Accomplishment Audit Group: "Closing the Loop"

Similar to the earlier demand for fiscal audits, the public is now demanding an accounting of student accomplishment. Just as the independent fiscal audit of schools has eliminated most fiscal illegality and has forced fiscal management changes, the IEAA group can also be used to create the demand for the necessary instructional reforms. The concern for results in education among the electorate is a recent development, but it is gaining momentum. "Equal opportunity" in education no longer mollifies the majority; "equity of results" is demanded. This is especially true of the educational benefits conventionally called the "basic skills". Even though Title I language reflects a traditional concern over inputs such as equipment, teachers, space and books, the subsequent questions raised by the Congress have moved beyond how the money was spent to questions concerned with whether the students have learned, had secured jobs, or are falling behind. This is the political soil from which the independent accomplishment audit has grown.

The Auditing Process

The Independent Education Accomplishment Audit is a process similar to that used in a fiscal audit. The emphasis, however, is on student performance as a result of financial outlays. The Independent Educational Accomplishment Audit (IEAA) relys upon outside independent judgment and has six essential parts; the pre-audit; the translation of local goals into demonstrable data; the adoption or creation of instrumentation and methodology; the establishment of a review calendar; the assessment process; and the public report.

1. The Pre-Audit:

The auditor selected by the school system starts the IEAA process by discussing with the staff, students, and community the objectives and plans of the particular program to be reviewed. This phase produces a list of local objectives and a clear description of the programs in some order of priority. In performance contracts, he reviews the project's "procedures" manual.

2. The Translation:

In concert with local people, the auditor determines a clear formulation of the evidence indicating that the objectives have been met and the methods that will be used to gather the evidence. This phase produces a set of specifications revealing what the student will be able to do as a result of the educational experience, the manner in which the evidence will be secured, and the standards which will be applied in interpreting the success of the program in bringing the students to the objectives.

3. Instrumentation:

Along with the translation, the auditor, working with the LEA, determines the audit instruments, such as tests, questionnaires, interview protocols, and unobtrusive measures which will be used to gather the evidence. The product of this activity is a set of defined techniques and procedures for data gathering.

4. Review Calendar:

An agreement is secured in writing which indicates the nature of the reviews, where they will be held, how long they will take, when they will occur, and who is responsible for arrangements, the nature of the arrangements, and other logistical considerations. It is essential that the calendar be determined in advance and that all concerned by a party to the agreement and have the authority to honor the agreement.

5. The Audit Process:

This is a responsibility of the auditor. In this phase, the auditor carries out the procedures agreed upon in the pre-audit, translation, and instrumentation phase as codified in the review calendar.

6. The Public Report:

The auditor files a report at a public meeting, giving commendations and recommendations as they relate to the local objectives. The report is designed to indicate in specific terms both accomplishments and ways in which the program may be made more effective.

Advantages of the IEAA

The IEAA is a new technique designed to put local school personnel and the clients they serve in a problem-solving mode of thinking. It is built around a financial core since money is a common denominator for the heterogeneous elements of inputs, but its focus is upon student attitudes, skills, and knowledge. Out of the IEAA, a whole range of useful by-products are anticipated. First, it may lead to a knowledge of optimum relationships between outputs and inputs, e.g. the "critical mass" in funding different types of compensatory programs. Second, it can form a basis for the discovery and improvement of good practice in education. Third, the IEAA creates the need for performance type contracting and/or budgeting in the basic academic and vocational skill areas. Finally, it can renew credibility in the educational process by effecting more responsiveness to the needs of children and supplying the understanding necessary to produce change. The power of the electorate over public education must be politically, not administratively, derived. If techniques can be developed to convince the community of the benefits of responsible leadership through accountability for results, those interested in furthering education can better support the educational enterprise.

Developmental Capital: Financing Innovation in Education

For too long a period of time, the public schools of this Nation have been funded and operated in such a manner that educators and administrators have been discouraged from providing efficient and effective instructional services. Federal funding, despite a plethora of regulations and guidelines, proposals and reports, actually supports, and, in some cases, encourages, inefficiencies and inequities in public schools. At all levels of financial support, money has been directed toward specific problems as they emerge, rather than being systematically used to reform the institution. Hence, taxpayers and legislators find themselves in the tragic position of throwing "good money after bad", for, while the price they pay has never been greater, the problems emerging from public education have never been more numerous.

The hard lesson to be learned from the past five years of major Federal funding of educational programs is that the way in which the money is delivered is as important as the amount. If the cycle of more money and ever greater problems is to be broken, political authorities should realize that discretionary money must be used for not only successful programs, but also for system renewal. Writing in the Fall, 1969, issue of The Public Interest, Daniel Moynihan admonished that: "The Federal government must develop and put into practice far more effective incentive systems than now exist whereby state and local governments, and private interests, too, can be led to achieve the goals of federal programs." Properly conceptualized, therefore, Federal aid to education should be viewed as capital, which, when made available in a predictable and systematic manner, will provide the energy for educational engineering. The basic purpose of developmental capital is to provide a financial resource to stimulate and sustain re-examination and modernization of the educational system. The investment of "risk" capital can generate new educational traditions by applying the developmental aspects of business success to the public sector.

Effecting necessary change requires discretionary funds which are not now available to local school leaders. In the absence of an infusion of new monies for development, dissemination, and installation of new products and practices, the gap between the demand for higher quality education and performance is likely to widen further.

With developmental capital set-asides, renewal can be directed through Federal, State, and local channels, and activity can be aimed at improving management leadership capabilities. All three sectors of Government can work in conjunction with each other to attract the best minds and resources to the renewal of the system.

Funds at the Federal level can be applied to "high risk" investments, for this is the only governmental level that can commit the amount of dollars and manpower to accomplish research and development. Another major consideration of the Federal level of government would be the identification of successful practices around the nation. Renewal capital can be used to determine the most pressing management and operational needs of school administrators and to identify successful school management and classroom practices. A nationwide search needs to be organized to identify educational approaches that are effective as well as schools which have resolved major administrative and instructional problems.

The Process of Using Developmental Capital

Developmental capital, available in a three-stage process, is the means of responsibly fostering change and renewal. If educational engineering is ultimately to have any impact, it must receive its "energy" from a pattern of funding.

Three-stage funding of projects is one way to maximize the effectiveness of this developmental capital. In this process, the first step would be to provide small amounts of money to the agency so that a management support group or technical assistance can be used in the planning process. These planning grants accomplish two purposes. First, schools can afford to attract the resources necessary for good planning. Second, it equalizes opportunities among the schools that are competing for project approval. No longer will the wealthy schools have an unfair advantage over the poor schools in the competition for developmental dollars, as happened in the Title III and Title I ESEA application process.

Program operation and management funds, the second step, are then made available to schools that have demonstrated the best use of the planning grants. There would be two major criteria for awarding this money. First, the schools should demonstrate skill in the assessment of system needs, and imagination in relating expected program outcomes to the identified needs. Second, the request for proposal should be a clear and comprehensive document. The heart of the RFP is in the clear statement of outcomes, not only for the program, but also for the renewal of the school system. The art is in setting parameters in such a way that the bidder is able to make his best response to this statement of need. The third stage of the funding would automatically follow the money for program operation and would be for the independent educational audit. There must be no change for the auditor to be involved in either program planning or operation; rather, the accomplishment audit group must be independent.

Grants management, funded by a risk capital account at the local level, must also follow this three-phase process if sustained innovation is to be accomplished. Risk capital can be used by an administrator to build an in-house innovative capability or at least utilize that which exists on the outside under contract as a management support function. If the administrator could make this risk capital available in three stages, talented and ambitious teachers would be encouraged and would have the resources to bid on requests for proposals. This process could take on a myriad of forms. Two examples illustrate the power of the risk capital concept.

In California, the superintendent of a large school district was allowed to manage approximately one percent of the operating budget of the school district, some $50,000 as an investment account. Board policy also permitted the set-aside of funds raised from Federal, State, and private sources around this one percent set-aside. For the period 1965-68, with the assistance of an elected teachers' group called the Academy of Instruction and the cooperation of students, administrators, community members, and the Board of Education, this set-aside account was used to invest in competitive teacher/student/administrator proposals tied to demonstrable objectives.

Significant changes in student accomplishment, teacher effectiveness, and administrator initiative have resulted from this grants management strategy. Such things as a Know and Care Educational Resources Center, a Zero Reject Reading Laboratory, a Physical Fitness Testing Center, a Humanities Center, and the incorporation of vocational programs into the fundamental reorganization of an entire school are only a few of the results. The one percent set-aside was used as a "rudder" to cause change affecting the entire budget.

Another developmental effort undertaken with funds from this investment account brought about the production of a film designed to familiarize students with the dangers of LSD and other drugs. The film proved to be so successful and popular that sales to other school systems earned the producing district a profit of about $100,000 (called non-profit income) which was added to the investment account for further activities.

In Dallas, Texas, the Superintendent of Schools has obtained one percent of the local school revenue for a developmental account called "Pennies for Innovation". Teachers submit innovative proposals which are then judged and approved by a board of master teachers. With 75 to 90% of local budgets tied to salaries and with a salary schedule that is so rigid that the weakest teachers are often the highest paid, this simple strategy shows great promise for stimulating the creativity and flexibility of many teachers.

IV. Summary

If we accept the challenge of accountability in our high schools, we can expect serious work toward the accomplishment of basic professional ends. These include: the location and/or design of good practice, the adaption, adoption and installation of that practice in a continuing efficient and effective way, and the provision of incentives for renewal. We can meet this challenge if we will engineer accountability into our schools making those modifications which fit our unique settings.

To me the role of a school leader rests on the bed-rock of problem solving. Against problems we need not be defensive or dispirited. We can engage the wisest and best counsel and aid regardless of where it comes or whether it is credentialed.

Our old programs were effective and just within the context of those eras -- but they cannot and are not meeting new needs. Unlike many Congressmen, we in education cannot run on our record-- on keeping more pupils in school longer or getting more pupils into college. we cannot run on more of the same. Leadership is no longer a reward for years of faithful service. The call for accountability is a call for review and reform through an emphasis on shared information, objective reflection, and results. We can meet that challenge if we will define our burdens and build our capability to meet those burdens. Out of these troubled times will come a stronger school system. This is a Can Do nation. American education has been the most inventive on earth. The times call for new inventions, new modes of proof, new roles for professional personnel. Of course accountability is difficult; but then who ever thought setting out to truly educate each child to his maximum capability was going to be easy?

REGIONAL CONFERENCE

A Study of the Comprehensive High School in Massachusetts

ANDOVER HIGH SCHOOL
Andover, Massachusetts

Wednesday, April 29, 1970

AGENDA

9:30 - 10:00 Coffee and Registration

10:00 - 10:30 Report of Study - Dr. William C. Gaige and Dr. Lloyd S. Michael

10:30 - 11:00 Discussion about the Study

11:00 - 11:50 Position Paper - Dr. Harold Gores

Ed.D. Harvard University; President, Educational Facilities Laboratories since its funding by the Ford Foundation in 1958; Superintendent, public schools, Newton, Massachusetts 1949-58; Assistant Superintendent, Newton, 1943-49; Council of Educational Facilities Planners; Building Research Board of National Academies of Sciences; Educational Board of New York Times; U.S.O.E. Commission on Educational Technology; Honorary Member, American Institute of Architects.

SUBJECT: "PHYSICAL FACILITIES IN THE RELEVANT HIGH SCHOOL."

11:50 - 12:35 Reactions - Panel, Audience

12:45 - 1:30 Luncheon

1:30 - 2:20 Position Paper - Dr. Dwight W. Allen

Ed.D. Stanford University; Dean, School of Education, University of Massachusetts; Associate Professor, School of Education, Stanford, 1965-67; Director, High School Flexible Scheduling and Curriculum Study, 1960-67; Director, Stanford Micro-Teaching Study, 1962-67; Coordinator, Secondary Teacher Education Program, 1962-67; currently, Chairman, Commission on Education for the Teaching Profession of the National Association of State Universities and Land-Grant Colleges; author of numerous educational publications.

SUBJECT: "LEVERS FOR CHANGE."

2:20 - 3:10 Reactions - Panel, Audience

3:10 - 3:20 Summary

Physical Facilities in the Relevant High School*

by

Harold Gores

I get around a lot and, you understand, these days I deal only with the solids of education -- not with its fluids, the people who flow in and flow out, nor with its gases, the curriculum. I deal with those things you can with impunity kick with your foot -- buildings and equipment. I also realize that as I report some of these things that they will not be practical for you. Just let me report that they exist, and then you try them on for size. Education responds to subculture, and it is made up of many subcultures; and things that work beautifully in one community won't work in another or are politically impossible. Robert Moses said it best some years ago. He was the well-known planner here in New York City who said something to the effect -- "No municipal enterprise is ever perfectly done so the public administrator gets what he can get when he can get it and moves on."

For many of these things the time is not right but here are some of the things I see. To begin with, education is a recession at the moment. Taxpapers over the country are in revolt. They can't do much about Washington. They can't do much about Boston, Albany, or what's happening at the capital, but they can do something about their own affairs, and they frequently take out their hostility on the schoolhouse. Not only are the taxpayers in revolt, but federal cutbacks are drastic these days. Compare 1969 with, say 1967. Title III alone that year was bigger than The Ford Foundation. Title III alone had something like $312,000,000 when The Ford Foundation itself had only some $310,000,000 that year. Of course, you know Title III has been dispersed to the various states and there has been less of a federal thrust in getting venture capital into education. Corporate profits are down 7% this quarter and that affects support, and then the 4th source of help in education, the foundations, are nervous these days. The foundations have been taxed for the first time. Now the tax isn't very much. It's 4% on the average which simply means they have 4% less money to give away. It is much like first surgery. Even though it's the removal of a wart, you still make out your will the night before you go. And the foundations are nervous. Some are what you call "flow through foundations" which means the corporation looks at its profit and loss sheet at the end of the year, and if they had a good year, they'll flow a lot of money through their corporate foundation. If they had a bad year and the stockholders are sullen, they'll flow less through. So, you add all those four factors together, and this is a period of recession for us.

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*Transcription of a telelecture

Now the shape of the emerging high school, as I see it, takes various forms. It's clear that the principals' thrust at the moment is to increase individualization. The old block-booking of students, regulated by bells, moving from box to box, is breaking up. The schools try to increase individualization; they also try to increase visualization. That is, to appeal to more of the senses in learning rather than talking to people about what they should be learning.

Secondly, I see the open plan coming increasingly to accommodate the rearrangement of space and to forestall obsolescence. Now, if any of you are planning a high school, stay loose. Plan large zones of space which are easily alterable and avoid designing every little part of it precisely or you will speed the day when the building is declared obsolete. Now this will be difficult, in part because architects prefer to detail everything. This is one way they can show the client how hard they worked and how much skill they had. Whereas if you ask for general space -- mutable, malleable, universal space, the architect has a feeling that he is not practicing architecture but is creating a warehouse. I notice also increasing amenity. Our schools are getting quieter because they are carpeted. They are getting increasingly comfortable. At long last, the child who always had a right not to be cold (so the earliest schools in New England had stoves) now has won a new right, and that is not to be hot; so we see air conditioning now, no longer a matter of public dispute. Indeed, I was told the other day in Florida that when you put a school up for bond issue now, unless it is air conditioned, you know you will lose it. The people themselves, because they want year-round use and because they want community use, and because the adults are coming in the schools, insist upon air conditioning.

The furniture lags most of all. The furniture is still slippery and plastic, potato chips which make a youngster pay attention to holding himself upright lest he slip out of the chair. On the general theory that he could learn more if he could focus all of this attention on what he is learning, rather than having to defend himself from heat or noise or to keep himself in balance, it seems to a reasonable person he might learn more if we did something about the furniture.

Increasingly, in high schools now, I see adult furniture. We have dejuvenilized the high schools in many respects. Go in the libraries now, and they are not filled with that steel, plastic, formica, hard, reverberative, bland, antiseptic furniture that so pleases the custodians and city hall, but somehow does not make the library an attractive place for a student, if you ever turn him free so he can go there. Another problem is to get the faculty to loosen up on control of children.

Then I see community use coming everywhere. People aren't building schools for children anymore; they are building schools for people. Now, to be sure, the schools should serve the children well when they are there, but set your cap for the general public. In physical education, for example, a school ought to be as concerned about the father who is jogging for his life as for his seventh or eighth or ninth grade boy who is jogging around your track in the daytime. Furthermore, if you get the community in, you have a broader base of support at the next bond issue.

Than I see decentralization and dispersed locations coming everywhere. As you know, there is the famous Parkway School in Philadelphia (I guess that's called the nowhere school) and in New Haven they've got a dispersed arrangement called the everywhere school, so that more and more of the school learning takes place outside the schoolhouse. Increasingly the schoolhouse has become a base of operations, and the community is increasingly the general extension of the school as a laboratory.

Another thing that I see coming in the big cities is "joint occupancy" -- that is, the school and some other compatible enterprise, which may be private or public, occupy the same premises. Evans Clinchy, who is there with you this morning knows a great deal about the subject.

In general, those are the changes that I see. Now let's talk about some of the specific parts and pieces of the buildings. To begin with, I find more and more communities perplexed about demography, especially in the suburbs. If you have a very desirable town to live in, and if you have zoning that requires large amounts of land for a house and costs are high, you can make a mistake in projecting your school enrollment if you simply take your kindergarten and first grade enrollment and extrapolate it in a linear fashion. If you project those early grades, it will indicate that your high school is going to shrink and now grow. But the fact is that in these very desirable places around central cities where the out-migration comes, high schools continue to grow. The school system grows at the top and at the middle and not at the bottom. It is easily understood because one has to be middle aged before he can afford to buy it, a house these days, and by that time his youngster is already in high school. So in many of these posh places (of which there are a number in greater Boston) the system is going to continue to grow at the top, and this will mystify people at the town meeting who think it's so simple to predict how big the high school is going to be ten years from today by just going back into the second grade and counting the children.

I notice everywhere I go now, there is concern with so-called "systems buildings". A systems building is made up of pre-engineered components. The parts and pieces are manufactured in factory, off-site, then they are assembled on the site. There is less on-site labor and more in-factory labor. This doesn't mean that any two schools need ever look alike. This is not Howard Johnson's orange roof standardization. The silhouette of the building and the exterior planning can be anything you want it to be, but systems components do guarantee that on the inside the building is flexible and will give you a second guess. After all, you are just in the stream of change. Your successors are going to have problems because, hopefully, education will change, and when it does, you need a building that will get out of the way. These systems buildings maximize the interior flexibility so that children, teachers, and the curriculum can cut their own pathways through the school in future years. Many communities have what you might call a sense of trusteeship -- they don't build the building just to get themselves off the hook. They are building this building now as the launching of an enterprise that will only be in middle life in the year 2000. They are thinking of their successors. They are putting up buildings that are easily and inexpensively alterable.

Be sure to watch the Agassiz School Study at Boston; Evans Clinchy knows a lot about that. That's going to be a systems school. It's coming in Boston. In Florida, last year one quarter of all the schools built were systems buildings. Toronto Metropolitan District just bid 2 million square feet of space. Montreal Catholic Schools are expanding and will be employing a systems approach for their buildings. Detroit is developing additions.

It started out in California originally in this country, transplanted here by EFL from the British. After World War II, the British aircraft industry needed a project, since they weren't making Spitfires anymore. They decided that the schoolhouse was something they could make which was needed. Knowing nothing about anything except making airplanes, they tended to approach the schoolhouse as if it were a plane, so they made everything fit. You never see a carpenter sawing a board to put a 707 together on a runway. The pioneering work was done in Britain. We transplanted it to this country and it's hopeful to observe that Mr. Romney's "Operation Breakthrough" for the housing in this country is going "systems".

Everywhere you see open planning. I know of a school system in Texas that has partitions for sale. They have $40,000 worth of partitions they will sell you for $8,000 if you want to buy partitions. Partitions are the walls that go from the floor all the way to the ceiling. They have them in a warehouse. They didn't dare not buy them. This was, you know, three years ago. The partitions arrived late so they opened the school without the walls. At the end of the year, nobody said "Where are the walls?" The teachers were teamed in groups and they had team learning, putting youngsters in six-packs or whatever and the teachers no longer wanted the walls; the walls stood in the way. And so I'd say watch out. Don't load your building up with any more partitions than you absolutely need for physical security - a lockable place. Indeed, next year, go down to North Kingstown, Rhode Island, where there will be what is in effect a one-room high school. I think the enrollment, as I recall, is around 500, but it is a great acre of space, air conditioned, of course, quiet, carpeted, and so forth.

If you ever have reason for being in Colorado, go to Idaho Springs which is about 50 miles out of Denver and see there another one-room school of large enrollment. If you are up in Maine, especially you Colby graduates in Waterville, go over to Coburn Classical Institute and see a whole school under a geodesic dome -- great space in which teachers, children, curriculum can run their own pathways. There are some advantages to this general open space I am told. I go around and say "so what", other than that maybe you save money on partitions and doorframes and doors and so forth. I hear that there is less absenteeism among students. There is less friction among children and among teachers. In the typical eight-grade school made up of square classrooms (each classroom about the size of a prize fight ring) you get a confrontation between pupils, pupil and teacher, teacher and teacher, or whatever, and they are already in the ring. If they are in a great zone of space, it is possible to back off into the hills about 40 feet away and reassess one's position and the reasonableness of the other person's argument. General observation is that there is less friction, reduction of absenteeism. When daily substitutes are difficult to procure, it is quite possible that the team absorbs the missing spot, and there is a trade-off here in the cost of substitutes.

Let me say something about physical education. The emphasis is increasingly on the lifetime sports and not just on the inter-scholastic athletics which tend to set the design of that gymnasium. Especially if you include community use, that basketball box is not the ideal or most useful way of providing space. What I see now coming especially in the West and Midwest is just a great roof, a scoop of the sky, what you might call an acre of June, and in it you put new surfaces. There is the artificial turf, rolled down when wanted. Incidentally, in Texas a study has revealed that even if there is plenty of land, if you were to put in an artificial field (and the price is coming down drastically as competition comes in) you could get your higher original cost back in about six years. So if you are playing for long-range economy rather than initial cheapness, look at the artificial turf. For one thing, there are fewer knee and ankle injuries which is why professional football and professional baseball is putting in the artificial turf. If you have your eye on cost per square ft., forget it; but that's not the criterion. It's cost per use. You can have so many more uses without having to rest the turf that if you take cost per use, it's the path to economy. It also saves if you are tight for site and cannot afford to take those six houses to make a parking lot and football field or whatever.

Plastic ice is just beginning to come. If there is one thing that kids like to do, it is skate, and general skating is a wonderful thing for the typical family. The father, mother, and the little six-year-old girl who is sure to become another Tenley Allbright, can skate together; but we don't have skating in many schools because of the cost of refrigeration. Some of the private schools spend a quarter of a million dollars for hockey rinks. It won't be long, I am sure, before the plastic ice (which at the moment isn't quite as slippery as God's own ice and has certain advantages for small children learning to skate) will be cheaper. When you are next in the New York area, go out to Glen Cove and look at the elementary school there that has plastic ice put in a gymnasium. Someday it is going to be quite possible to announce in a typical high school that Friday night is basketball and Saturday night is skating. The difference is that Saturday afternoon, someone has put down the plastic ice.

Vocational education is complex. EFL has put out a publication describing six of the best designed vocational school buildings we can find. If you are interested in receiving this publication, drop us a line. We would be happy to send a description that will save you from having to go to Las Vegas, if that could be called saving, because there in Clark County is one of the best technical-vocational schools in this country. All we did was send out a writer and a camera to try to tell you the story of these six schools.

The facility that is really the liveliest, or most in agony, I guess you would put it, is the library. On our staff here at EFL we have Mrs. Ruth Weinstock who is just in yesterday from two weeks in California and the West looking at libraries. She put together the publication THE SCHOOL LIBRARY, cares very much about the library, and is a former teacher herself, and, if I get Ruth's eye here, -- come on over and tell them what you saw in California last week as you visited library after high school library after high school library. This is Mrs. Weinstock, mother of two. I won't get you weeping at this point.

MRS. WEINSTOCK

Hello. Mr. Gores has pointed out, I have indeed just come back from a quick tour of California looking at one library after another. What is very evident is that libraries are growing in leaps and bounds, and they are growing so rapidly that there is a large area still, of unthought-out approaches to how to use the vast quantities of information they are beginning to store. And not the least of how they are going to use what they've got involves physical facilities. Most libraries are really places of information-zero. That is, you walk into a library and what do you see? You see tons of bookshelves with books on them, with their secrets locked between the covers, and if you are an unsophisticated user of a library, you can be totally lost. We have to assume that large segments of our school populations are unsophisticated library users. We have to assume that they do not know how to ferret out information, and therefore, the library has to find a way to make its wares available, to make them known, in a totally new kind of way. Not long ago, I heard John Humphreys, who is the Assistant Commissioner of Public Libraries in New York State, say that unless public libraries begin to reach out to their communities with sensitive programs really designed to meet the needs of the people, that unless the public libraries take to the streets with their programs, then there is a strong danger they will be put out of business, that the new private information industries will be contracted to take over the job. It seems to me that this is something to which school libraries ought to be alert. They, too, have to reach out and they have to do it by using everything known about exhibition techniques, about the use of graphics, about the use of all kinds of communications devices to trigger ideas, to confront youngsters with notions, to juxtapose concepts, so that kids will begin to think about things in ways they hadn't thought of them before. One sees very, very little of any attempt to do this as you go from one library to another. When you see, as I did, a student walk over to another student behind a desk, say to him "What have you got on culture?", and the student library worker behind the desk says, "Why don't you try the card catalogue under C?", then you begin to realize the kind of bewilderment that there is in the use of this ton of information, of locked-up information.

Another thing that one sees is a good deal of lip service, I suppose, to media rather than actual incorporation or use of media in libraries. It seems to me that librarians regard media (or school people still regard media) a little bit the way the United States regards China. It recognizes that it is there, but it isn't exactly crazy about dealing with it, and is going to put it off as long as possible. Now that's true in a large portion of libraries. It's beginning to be untrue in a small portion, but even where libraries are recognizing the enormous power of non-print devices to communicate, once again, the application of what they know is quite primitive. Librarians report to me, for example, that the largest piece of media, the largest type of media in their collection, is a little gadget which is a combination filmstrip viewer and record player. They say kids get restless just listening to something. That suggests that perhaps they are not listening to the right things, that perhaps if they were listening to the live voices of the past, which are otherwise inaccessible, they might not get restless. It suggests that perhaps we shouldn't be recording music on inexpensive tape cassettes because there's poor fidelity and they get restless listening. It suggests that when we take 8mm film clips, extracted from 16mm sound films intended for a totally other purpose, we distort the integrity of that medium and we render it lifeless. So there is still a good deal we will have to learn about how to use media, what distortion of media is, and how to get it to people.

Another thing one sees as one moves through these libraries is that though libraries are growing larger and larger and seem to run any place from 10,000 feet up to 30,000 square feet, with collections ranging from 15,000 volumes up to 50,000 volumes, this is an enormous change from what we had five years ago when most libraries were just a collection of a few thousand books, maybe less than that in an old classroom. But even where we see this whole new movement toward information centers, we see too that schools continue to cling to their study halls. The study hall is an administrative device planned to keep the administrators happy and to keep the kids in a tidy manner where everybody knows where they are. They are not intended for the students themselves, and they are not intended as places to move ahead with inquiry. They are places where kids go with their textbooks. Now, it seems to me that if we are going to be developing large information centers, it is time that we shed the old study hall notion where kids go to be supervised and don't have materials to work with.

Another thing we see is the development of scattered resource centers throughout the schools. Clearly, departments ought to have a piece of a library very, very close to them so that kids can move from an instructional space immediately into another area where they can find equipment to work with and where teachers can be close by to give them a hand as well. But if these sub-centers are not adequately staffed, and stocked, then they run the risk of becoming another kind of study hall.

In sum, one has to say that we've come a long way in libraries, but we have an enormously long way yet to go with the refinements to make them do the job for us that they can do.

MR. GORES:

Thanks very much, Ruth. Let me add a couple of more items to the library. The last time I heard (this may not be accurate) the typical high school in this country had about 6% of its space devoted to something called the library. I'd predict that if you do right by those who succeed you, you'll create schools that can give 50% of the space to a library-like environment. This doesn't mean that it is all booklined walls or whatever, but all the media, all the carriers of information will be brought together in something that I hope is still called a library. Parenthetically, I understand the youngsters would prefer to call it an instructional materials center. The I.M.C. has a certain missile sound to it, and I am told by some students, too, that the image of the library is a pin-drop place presided over by a Victorian character dusting her books; the boys particularly adjust quickly to other carriers of information, including little black boxes that can talk, provided they have something to say. And what they have to say is getting better all the time, and the devices are being miniaturized. The old heavy equipment which the audio-visual man used to lug around the building is going to be replaced with "hands-on" materials and miniaturized boxes. I have here in my hand right now a little projector which costs less than $100. It's about six inches long and about three inches wide, maybe four inches high, battery operated. You can use it on a bus, with a jack and earphones. Listento it. The audio quality is only as good as the telephone, but that's good enough to get information from. Inexpensive - "hands on". It won't be long before many a librarian will have a number of these, or less expensive ones, and youngsters will get their information privately and without acoustic interference with another youngster three feet away reading a book.

Watch the whole microform development. We have here a card which looks to be about 4 x 6 on which 3,000 pages of books are printed, with a reader not much larger than a portable typewriter, increasingly inexpensive. Someday they predict that it will be cheaper to hand the youngster a book on so-called microfiche than to give him the physical book itself. All these things threaten the library and threaten the old formulae as to how big it should be, but someday, ultimately, I think that a high school is going to be a great library surrounded by living rooms. I would call them classrooms except if you call them classrooms, they tend to be ceramic and like kitchens. What we need is high quality space with some dignity which praises the occupant as he sits there and, in the presence of a teacher, hammers out the values. The student can get a lot of his information from boxes and devices and books but then the meaning of it all has to be thrashed out in the presence of the teacher, and we have no machine that can replace the teacher. Therefore, technology is not a threat to the professional teacher. Indeed, we will have to pay the teachers more because the questions are going to get harder. The teacher will spend less of his time telling it like it is and instead will be arguing the cultural values, the meaning, what's right, what's wrong, what's moral, what's immoral, what's amoral. Those are hard questions that the teachers will get because the youngster will have gotten his facts from things and then gets his values from people. There are some upset factors to watch out for.

Watch out for this audio-visual development that is coming. The software is getting better. The hardware is getting smaller and cheaper and more "hands-on".

Watch out also how you lay out cafeterias. There is a great change coming in school feeding, particularly if you build schools for people and not just for children. Already, I understand, in Brookline they have two elementary schools which at noontime feed what you might call the "lonely aged". These are people living in apartments and have to eat somewhere. They come to their friendly schoolhouse to eat after the children have been fed, and the best part of it is that after the aged eat, they have a socially organized half hour or more. Some of our loneliest people are those who have retired or are on old age assistance or whatever, who find that the only way that they can connect with our culture generally is waiting at the laundromat or talking to the cashier at a supermarket. Let the schoolhouse be the catalyst for these folks. Furthermore, you will get reimbursement from the federal government or from the state.

Speaking of new arrangements Ling-Temco-Vought has a contract with Dallas, as you know, to teach vocational education for potential dropouts. Interestingly enough, there is an incentive put into the contract. If the youngster enrolled in the L-T-V program contracted for by the school board, gets employment in the craft for which he was trained and holds the job for 90 days, L-T-V gets an extra $100.

And you all know about the famous Texarkana experiment where, in effect, the school board has contracted with outside persons to come in and put on some of the academic programs ordinarily performed by teachers.

As for science labs, try as best you can to move toward portable, quick connecting devices rather than to freeze your building by the plumbing that's put in, which means that section can never be used for anything else. Move toward portable quick connecting equipment such as the airlines have done. You have a resource not very far from you. One of the brightest consultants in this whole field of science is Burgess Standley who lives just outside of Boston in Medfield. He goes all over the country for us advising schools and colleges on science facilities.

In general, stay away from monumental design if you can. Bucky Fuller once said, "The sophistication of a building varies inversely with its weight." Stay loose. After all, when you change your high school you are changing the subculture, and you have to bring the people along with you. Everybody wants progress. Nobody wants change, and that's the problem when you change the public image of what a school is. You are dealing with a culture and a subculture. I once read something said by the philosopher Lichtenburg 100 years ago which is still true. He said, "I don't know whether if things change, they will get better, but I do know that if things are to get better, they must change." You are the change agents out there, and you must bring the people with you because, in effect,you are responding to changes in culture that affect all of us. You strike a blow for liberty for all of us if you can put up a relevant high school these days. Well, between Ruth and me, we have consumed three-quarters of an hour. A bell should ring at this point at which you should go to your next class, if you still have that kind of school, but I understand you are going to stay in the auditorium. Why don't I stop talking now and see if I said anything that either a) needs to be corrected, or b) needs to be expanded upon, or c) you would like to hear some more about.

Levers for Change*

by

Dwight W. Allen and John C. Woodbury

Too often in education we define change by very formal processes, insinuating that these processes are very logical, very rational, and very predictable. But change in education is not a logical, predictable process at all - rather, it is an almost totally whimsical phenomenon. It is whimsical when a "sputnik" arrives in the sky and curriculum in American education takes a dramatic turn - whimsical in the sense that had we got our satellite up three months sooner there would not have been the fuss.

The amount of change in American education since 1900, however, has been minimal. The present system much more closely resembles a nineteenth century enterprise than a twentieth century enterprise. Today, we need change for the sake of change - or to be more diplomatic - we need change for the sake of perspective. We have a monolithic school system which proceeds from a standard set of assumptions, and we have no alternative perspective on those assumptions.

A major problem in effecting change in schools is that no group controls enough of the fabric of education. The teachers have one thread, the teacher education institutions have another thread, the school committee has a thread, the administration has a thread, and the publisher has a thread. Any one group can pull his thread out and put it back in - you can put a woolly one in, or a straight one, or a red one - but it is only one strand.

The reality is that education is all locked up. You could not replace geometry with "statistics" if you wanted to take such action. Who could take it out of the curriculum? Somehow the system must be broken loose. It is only about a 50-50 proposition whether the system is sufficiently flexible to change before it collapses around our ears.

The body of this paper includes a number of suggestions concerning how the present educational system might be used to advance itself - how we might undertake major internal reforms. These "levers for change" differ from both the formalistic designs for change and the currently popular change strategies.

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*Presented by Dr. Dwight W. Allen. Mr. Woodbury is a graduate student in the School of Education at the University of Massachusetts.

The first lever is called the "resource carrot." Simply stated, school personnel are told they will get more resources to work with if they change than if they maintain traditional practices. A premium is placed on the development of alternatives. Every dollar of extra money, for example, is worth fifty dollars of regular money in terms of its impact on a program. And those who propose the boldest changes will get the biggest pot of resources.

The second lever is "traumatic intervention". For example, the School of Education at the University of Massachusetts discontinued every degree, course, and program effective eighteen months down the road. The school then put 150 faculty and graduate students on a plane for a week-long retreat in Colorado to initiate the planning process for a new educational program. The retreat cost $35,000 - but that is cheap in relation to a several million dollar budget. Two bad faculty appointments, for example, is a waste of $35,000 per year.

A retreat is one kind of "traumatic intervention." A second kind of intervention is the process of visitation. This is a standard technique which is over-used and often mis-used because it tends to influence a very small group of people. And there are always three types of visitors. First, you get those that believe beforehand that they are going to Mecca, and they go back and say everything is wonderful. Then you get the second kind who go to see how you have been lying to them. And they see how you have been lying to them, and they come back and they say it is all a publicity game. The third type of visitor is just an interested spectator. The reactions of this person are most important.

There are various kinds of interested spectators - people who came to the school to visit because it was in a part of the country they wanted to visit, or they wanted to see Aunt Sally. There are more of those visitors than we care to admit. Secondly, you get the type of spectator who is brought along by someone who thought about the "power structure". This may be a board member or union president who, when sold, can have great influence on decisions. That is a popular technique. In any case, the interested spectator is the most important visitor because that is the person you can convert - the person who came to visit Aunt Sally and all of a sudden he becomes an apostle for the new program. That differs from the person who comes to Mecca (because that never had much potential) or the person who just came because they already knew it was a bad idea. But visitation, too, is much overworked.

Exchange is another change vehicle. Exchange is cheap. It can be carried out in ways which have no financial detriment to anybody. Families can exchange houses - teachers of wide geographic disparity. They can move their families for a year or a semester. Those who push the exchange idea, even if you are not exchanging with so-called lighthouse experimental places, provide a different perspective than was available before. Even if that different perspective is mediocrity it is still a different perspective.

Another kind of "traumatic intervention" is the community event. This is where everybody shares something in common which is important to them, and this communal sharing - this common bond - can last for a long time. It could be a sharing among parents, students, teachers and administrators. A number of colleges have done this in terms of closing down for a day or two to examine the nature of the college. That is just one example of the community event which can be a very useful device.

Another obvious lever is the "change agent catalyst". This catalyst can be a student, for example. A group of high school students visited Stanford about five years ago. They were so excited by flexible scheduling that a promise was made to schedule their schools free if they could sell their district on flexible scheduling. The student body president of one high school went back and sold the principal, the school board, the faculty and the community - they went on flexible scheduling and saved the sum of $5,900. The student was the catalyst.

An individual or group from outside can be an effective "change agent catalyst". About five years ago a school district in Oregon held a conference. The teachers in the system claimed, "Oh, we'd like to change but our district won't let us." And the administrators said, "We'd love to change but our teachers won't let us." The outside consultants seized the opportunity to sit both groups down together and quote each party's position to the other. That confrontation forced change.

The function of the catalyst is to stir up the waters, to try to precipitate new activity and encourage new thought. There are places in American education where there is more desire to change than we recognize. A helpful principle which should be adopted is the notion that everything is permitted unless it is prohibited. Most schools operate on the principle that nothing is permitted unless it is endorsed.

Another lever would be the "pre-set schedule". The objective is to persuade people to commit themselves now for a program in the future. They will not commit themselves to change in December of 1970 but they might agree to implement the program in September 1972. If you want to lock in the new program, get a commitment to a "pre-set schedule." That will produce change.

You also have to know the right "psychological moment." This is called "striking while the iron is hot." Too many districts lose out on substantial opportunities to change because they talked about it too much. Educators always plan things too well. You have a dramatic moment when everybody wants action, but then someone becomes alarmed and says, "Wait a minute - we have to get the ducks in a row." By the time you get the "ducks in a row," the moment has passed. You have to be willing to get under way when you are not completely organized. The "psychological moment" is a very good lever for change.

Another important lever is the principle of "juxtaposition." This can be viewed as a group of alien structures. For example, teachers have always had five hours a week at the secondary level for teaching their subject. Teachers might be told they have two hours a week plus independent study. The teacher has to roll up his sleeves and get to work to figure out how to use independent study as an alien structure. However, if you tell the teacher, instead of five hours a week he has four hours a week plus independent study, the teacher just nods and smiles. He can see how to get it all done in four hours a week what he used to do in five hour's time. Then he will pay no attention to the independent study and not learn how to use that time. But if it is an alien enough structure, you demand that people change and that becomes a lever. It has to be a big enough change so that people have to take it seriously.

You can establish an alien structure or an alien curriculum. Just changing geography from the fourth to the fifth grade is not enough. If you demand a new curriculum of human relations, communications, aesthetics, and technology - that degree of change in the way things are taught would probably be sufficient. The historian in the school then will be forced to build bridges to the various areas, and will not teach all students as if they were little historians.

You may also introduce alien personnel. A superintendent might hire someone who is completely off the chart, take him down to the principal and say, "Here's someone I hired for you to use next year, and I assume you will be able to find a way to use him." The principal suddenly inherits an architect. The principal did not want an architect - he wanted a reading teacher. But he must find out how to use an architect.

The principal can play the same game by hiring alien personnel. One school near Denver has a program of independent study options. One of the options is modern dance because one of the housewives in the area wanted to teach it. They gave her a room and asked her to do modern dance on independent study time.

Alien technology can also be employed. Today, before you can introduce technology, you have to justify how you intend to use it in triplicate. There is another strategy. Take a video-tape machine and give it to the teacher and say, "Here, this is yours to use and I'll leave it while you use it creatively." In one school they had two overhead projectors. They were still in their polyethylene film after three years. But they were all in the audio-visual checkout. Finally, they were assigned at random to two classrooms in the school. The teacher was told, "Here is an overhead projector for your full-time use." One of those projectors at the end of the year was being used daily, and the other was used on the average of three times a week. At the end of the year something else unique happened - there were twenty-five requests from other teachers for an overhead projector in their rooms.

Another lever is the idea of "competing programs." In schools that is an original idea because everybody has a monopoly. Why not create two English departments and let them compete with each other for students, and then provide resources based on their student enrollment?

A very important lever is "experimental options". The multiple school concept can be utilized. Establish one experimental school and say, "We won't let anybody come to that school unless they allow us to experiment any way we please." In fact, in some districts they state, "We won't bus your kids to school. If you want your kids to get to that school, they have to get there on their own." Then they say to the teacher, "You can't be in that school unless you promise to experiment the way we want." The predictable result is you will be over-subscribed by the teachers trying to get in, and you will be over-subscribed in terms of the students trying to enroll. However, if you force the issue say, "Such and such a school is an experimental school and the kids have to be there," all the problems which existed before will be blamed on the experimental school.

The multiple school concept is central to the idea of "experimental options" because it maximizes the opportunity for choices. "Don't experiment with children" remains a powerful adversary of change. By developing options, parents can learn that students who are experimented with are fortunate children. Experimental schools have more resources, the programs are closely monitored, and remedial action is immediate.

Another idea is the "contraption theory" of change. Change always appears larger than it is. If you are the one who is sponsoring the new contraption, the plan is always enhanced by the rose-colored glasses you wear as you look at it. But for the outsiders, the contraption looks very suspicious. Educators also tend to assume the contraption is a rocket headed for the moon. They believe that once you mount the vehicle you are practically dead if it does not work. Experience with education contraptions usually proves, however, that you can get on and stay there almost indefinitely with nothing likely to happen. It is much more likely that the contraption is not going anywhere than it is going to the moon too quickly. In order to effect change it is necessary to understand the "contraption theory."

Another notion is the "open-ended commitment." The "open-ended commitment" implies a willingness to "get on the train even though we don't know where we're going." Let's start because we want to start, because we have people in whom we have confidence, because we are not satisfied with the status quo." One of the things that plagues educators is that we are in some instances too goal oriented. We do not recognize that every category of the system is arbitrary. We have big arguments about a category system, and once we adopt one, the future is determined. We do not recognize that the designated system is only one of many many alternatives. Situations should be created which are open-ended.

Combining this with an earlier idea, we should propose, "Here is an experimental school which we are not sure where it's going or how it's going to come out. Come with us." A present example is the Parkway Program in Philadelphia. Teachers and students there are using the resources of the city of Philadelphia. They are still planning the program and yet they have several thousand applicants for several hundred places. That shows how well satisfied people are now. We need to overcome the compulsive need for order and system. Adopting an "open-ended commitment" is one way.

Another lever is the "great cause." People give to great causes not needy institutions. Too often schools portray themselves as needy institutions. If you go to the community and say "our schools are poor," no help will be forthcoming. But if you say "our schools are great," you will get everything - money, the right to take risks, community action and involvement.

"Coalition governance" is an important vehicle for change. Create a faculty council. Involve students and the community in the decision-making process - in other words, give away the power. Give away some power to various kinds of coalitions. Administrators often say, "You know, I just can't hold on very long." A reply might be: "Well, if you can't hold on very long you don't have much to loose. Now give away some of your power--maybe you can give away enough power and create a different kind of coalition--maybe you'll be able to hold off longer. You certainly won't be in any worse position than you are in now." Schools can develop different kinds of coalition patterns, different processes of faculty and student participation as a means to effect change.

How much of our fear of student participation in governance has to do with the legitimacy of the lack of perspective of students, and how much has to do with our fear that what we are now doing can not stand the light of day? Are we really willing to submit our curriculum, our organization, our staffing to measures of relevance, performance, and accountability?

An important lever is the "band wagon". In America everybody wants to be instantly second but not first - particularly in education where the first question is always, "Show where it has worked." But everybody wants to be number two because that is a lot safer and society demands we keep up with the others. Band wagons can be good because you can use them to persuade people to join, and band wagons can be bad because people can climb aboard without knowing where they are going. It is our friends that kill us, not our enemies - our friends that add $100 to somebody's salary and say they have differentiated staffing. Or they add seven minutes to the second period to read the bulletin and call it flexible scheduling. But band wagons can be used in positive ways also.

The "long-term commitment" is also an important lever. When an experimental situation is created, a phenomenon called the "morale escalator" appears. For example, if a district agrees to initiate a differentiated staffing project, an agreement not to reverse the program for at least two years should be secured. You can never secure that agreement in the middle when the situation becomes difficult, morale is low, the critics are vocal, and the advocates become fatigued. That is exactly the moment when it is rug-pulling time not commitment time. Get the "long-term commitment" to see the program through.

The first time a horse and a steam engine had a race the horse won. Along with the "long-term commitment" and the "morale escalator" is the "expectation of difficulty." People should be told, "If you think this is going to work, you may be right and you may be wrong; but if you think things are going to run smoothly, you are absolutely wrong." One of the problems in education is that we promise everybody that they are going to win. We promise in advance that we know the experiment will work. When it fails, as many true experiments must, we are defenseless. Educators should demand the right to fail or there is no such thing as an experiment.

Taking the "initiative" is a useful lever for change. Many innovations fail because the opposition was allowed to seize the initiative. The concept of anticipation versus reaction is important.

If you wait until the students march on the administration building, you are beaten. Considerable boldness is required. One definition of boldness is "capitalizing on precipitating the unexpected." Another way of saying it is to "put up a moving target." By the time they shoot you are not there any more. Most educators are much more inclined to try small changes which make it easy for people to find them and hit them.

At one college, a department adopted a bold strategy to get new courses approved. It presented the academic committee with 200 courses to certify. They were set up with a mechanism that required months to approve one course. If the department had presented six courses, they would have had difficulty. But the committee, when confronted with 200 courses, gave provisional approval to the entire program. Sometimes large changes can be effected where small changes would be thwarted. Educators have been slow to recognize that principle.

Another lever is "job mobility." There can not be an educator today who is an educational leader in any sense of the word if he needs his job. Educators must be completely willing to have the job blow up and fly away tomorrow. Otherwise, innovations in education are impossible. Ironically, many educators who act as if they did not need their jobs disarm their adversaries and increase their effectiveness.

The appropriate use of "collective bargaining" is an important lever. The answer is not that collective bargaining is good or bad in itself. But the choice of issues is crucial. "What do you bargain for" is the relevant question. With some leadership on both sides, the issues of what to bargain for in a particular instance can be changed. You can bargain for differentiated staff - administrators can propose to the teachers that they bargain for a $25,000 salary for classroom teachers. The great danger is that the various groups allow themselves to get into an advocacy kind of situation -- the labor management routine. Administrators then have to go out and get survival training. Teachers and administrators should not be adversaries. The administrators were never in favor of lower salaries for teachers. The administrators have never had the clout to get higher salaries for teachers. But bargaining gives them clout. What is needed is cooperation and hard thinking about what to bargain for and how to use newly won power to improve education.

Two other levers are important. First is the "squeeze-offset" idea. This is where you consider a 100 per cent of present resources to get a job done, and then ask that it be accomplished with 90 per cent of the resources. Automatically, you have created 10 per cent to experiment with change. For example, increase the standard class size in a district by 5 per cent and you automatically create a 5 per cent pot of money for change.

Finally, an important lever is the "grandfather clause." The right thing to do and the practical approach when seeking change is to introduce liberal grandfather clauses. Such provisions protect those who oppose change and limit the hurt felt by some when basic changes in education are undertaken.

APPENDIX A

Initial Questionnaire Completed by 251 High Schools

In "Section C: Subject Areas" the part of the questionnaire on Agriculture is presented. Items identical to those on Agriculture were, with the exception of the names of the subjects, included in the questionnaire for the following subject areas: Art, including Crafts, Business Education, Distributive Education, Driver and Traffic-Safety Education, English, Foreign Languages, Health Education, Home Economics, Industrial Arts, Mathematics, Music, Physical Education, Science, Social Studies, and Trade, Technical and Industrial Education.

Data Form: Superintendents

Data Form: Principals

INITIAL QUESTIONNAIRE COMPLETED BY 251 HIGH SCHOOLS

A STUDY OF THE COMPREHENSIVE HIGH SCHOOL IN MASSACHUSETTS

Introduction

The Study of the Comprehensive High School in Massachusetts was authorized by the Massachusetts Advisory Council on Education. It is being conducted in cooperation with the Massachusetts Association of Secondary School Principals and other agencies and organizations concerned with the improvement of secondary education.

This instrument is part of the data collection phase of the Study. It has been approved by the Study Committee appointed by the Advisory Council. We invite your cooperation in furnishing the data indicated in this instrument and returning it on or before January 26, 1970, to Dr. John R. Sullivan, Jr., Assistant Director, A Study of the Comprehensive High School in Massachusetts, 55 Chapel Street, Newton, Massachusetts 02160.

The intent of the Study is to present recommendations which will, when implemented, lead to significant change and improvement in the high schools in Massachusetts.

The Director of this Study expresses appreciation to the individuals in Massachusetts and elsewhere who have examined and presented suggestions for the improvement of this instrument. Special appreciation is expressed to the National Study of Secondary School Evaluation which granted permission to use items from Evaluative Criteria, 4th Edition, and to the National Association of Secondary School Principals which approved the use of materials from its Large City School Study.

Lloyd S. Michael
Director, A Study of the Comprehensive
High School in Massachusetts
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William C. Gaige
Director of Research, Massachusetts
Advisory Council on Education

A STUDY OF THE COMPREHENSIVE HIGH SCHOOL IN MASSACHUSETTS

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H.	Educational Media Services - Library and Audio-Visual	H 1-4		
I.	School Physical Facilities	I 1-2		
J.	School-Community Relations	J 1-2		
K.	Financial Resources	K 1		

INSTRUCTIONS AND COMMENTS

1. An extra copy of this instrument is enclosed for your files.

2. A copy of this material has been mailed to the Superintendent of Schools in your district.

3. Principals are encouraged to enlist the cooperation of appropriate members of the staff in completing this instrument. For example, each of the 17 subject areas would be, it is hoped, completed by the department head in cooperation with some or all of the teachers in the department. If a school does not have department heads it is suggested that the principal ask a teacher in each department, working with some or all of the teachers in the department, to assume responsibility for providing the information. Similarly, the sections on Guidance Services and on Educational Media Services would be answered by the heads of these services and several or all members of the staff of the departments.

   The principal and/or the principal's administrative staff are requested to answer the items which relate most directly to administrative responsibilities.

   Many factual items may be completed by a secretary in the principal's office.

   The Director of the Study and the Study Committee trust that the principal will be an active participant in the completion of the various parts of this instrument either by (1) working with the personnel while they are studying and completing the various sections, or (2) reviewing responses with the personnel who completed the sections.

   The names and positions of the persons who completed each section are requested in the instrument to determine the extent of participation in the Study and to provide the identities of persons to contact, if appropriate, during the course of the Study.

4. If additional space is needed to answer an item, please use a separate sheet and attach it to the page on which the item appears.

5. The principals of 6-year high schools, grades 7-12, are requested to supply information for grades 9-12, even though some of the factual items may necessitate estimates rather than precise figures.

6. The term full-time equivalent of professional staff is defined at various points in the instrument in accord with the definition used by the Massachusetts Department of Education. The definition follows:

   Full-time equivalents "...is based on a five-day week and a five-period (hour) day. Thus a music teacher who is in five different schools one day each week is .2 of a teacher in each school. A teacher/principal who has two classes a day is .6 administrator and .4 teacher."

   Other examples are:

   1. Teaching 4 classes-librarian -- .8 teacher and .2 administrator
   2. Physical Education teacher who also coaches -- 1.0 teacher
   3. Art teacher-3 days this school -- .6 this school
   4. In 6-year high school teaches 3 classes in 9th grade and 2 classes in 7th grade -- for this report indicate .6 teacher.

7. System Code and School Code are requested at the beginning of each section. Please use the code numbers assigned by the Massachusetts Department of Education.

8. Please answer every item.

9. If you have questions concerning any part of this instrument, please call Dr. John R. Sullivan. Jr. at 617-969-1150, or write to him at the Study office, 55 Chapel Street, Newton, Massachusetts 02160.

THANK YOU

System Code_____School Code_____

Section A: General Information

Name of High School ____

School Address ____
(Street)

____
(City/Town) (Zip) (Telephone No.)

Name of Principal ____

Name of Superintendent ____________________________________

1. Enrollment as of October 1, 1969

Grade 9			Grade 10			Grade 11			Grade 12			Special			Post-Graduate			Total		
B	G	To.	B	G	To.	B	G	To.	B	G	To.	B	G	To.	B	G	To.	B	G	To.

2. Number of graduates in 1969 ________________
B G Total

3. Grade levels in high school program

4-year high school: grades 9-12 _____
3-year senior high school: grades 10-12 _____
6-year high school: grades 7-12 _____
Other: specify____________________________ _____

4. The school operates on

a single session ______
staggered sessions ______
double sessions ______
Other: specify ______________________________ ______

5. If the school operates on staggered or double sessions, please indicate the number of years this practice has been followed.

Staggered sessions ______ years
Double sessions ______ years

6. If the daily schedule is irregular, indicate

rotating ______
modular ______
Other: specify ______________________________ ______

Note: PLEASE ENCLOSE A COPY of the master schedule including the time schedule and teacher assignments for the current semester.

Names and positions of staff members who completed this section

____

____

____

____

System Code _____ School Code_____

Section B: Institutional Objectives and Philosophy

1. Does the school have a written statement of its objectives and philosophy?

Yes _____
No _____

Note: If "yes," PLEASE ENCLOSE A COPY.

2. Who was involved in the formulation of the school's statement of objectives and philosophy?

Administrators _____
Teachers _____
School Committee _____
Parents _____
Students _____
Others: specify _____
____
____

3. When was the statement formulated?

Year ______

4. Is the school presently re-studying the statement?

Yes _____
No _____

5. The ten educational purposes listed below are frequently implied or expressed in statements of objectives and philosophy. Please indicate below the degree of importance given to each purpose as implied or expressed in the school's statement of objectives and philosophy, the respondent(s) judgment concerning the importance assigned to each purpose in the school's practice, and the respondent(s) judgment regarding the expectation of the community for the attainment of each purpose. Use the following code for your responses.

1 - Very important
2 - Important
3 - Less important

Educational Purposes	School's Statement of Objectives and Philosophy	Actual Practice in the School	Community Expectation
Preparation for college			
Preparation for employment			
Preparation for leisure time			
Preparation for a changing world			
Preparation for responsible participating citizenship			
Development of an understanding and appreciation of our cultural heritage			
Education for international understanding			
Development of acceptable competencies, skills, understandings and/or appreciation in: Moral and ethical behavior			
Human relations			
Physical and mental health			

Names and positions of staff members who completed this section

____

____

____

____

System Code _____ School Code _____

Section C: Subject Areas

1. Agriculture

The purpose of this section is to gather data basic to the formulation of recommendations related to the improvement of the program in Agriculture in the high schools of Massachusetts; it is not to attempt an evaluation of the quality of teaching performance in an individual high school.

1. What is the student-professional staff ratio in Agriculture?

Total no. of students enrolled as reported for October 1, 1969		Total full-time equivalency of prof. staff		Student-prof. staff ratio Col. 1 divided by Col. 2 (carry to one decimal place)
	÷		=	

Please use the Massachusetts Department of Education definition of full-time equivalents which is "...based on a five-day week and a five-period (hour) day. Thus a music teacher who is in five different schools one day each week is .2 of a teacher in each school. A teacher/principal who has two classes a day is .6 administrator and .4 teacher."

2. Indicate below the special programs offered in Agriculture.

Remedial _____
Special (speech handicapped, physically handicapped, etc.) _____
Work Study _____
Honors _____
Advanced Placement _____
Other: specify ______________________________ _____
______________________________ _____
______________________________ _____

3. Does the school offer any courses in Agriculture in alternate years?

Yes _____
No _____

If "yes," please list the courses. ______________________________
____
____

4. List the Agriculture courses that have been added during the past five years.

5. List the Agriculture courses that have been dropped during the past five years.

6. Identify the most significant changes and revisions in subject-matter content in Agriculture during the past five years.

7. Identify the most significant changes and revisions in the instructional materials used in Agriculture during the past five years.

8. Many changes or innovations in instructional and organizational practices in various subject areas are designed to improve the effectiveness of instruction. In addition to the changes or innovations listed below there are doubtless others in Agriculture which may be identified with your program. If this is the case, please specify these under "Others." Please indicate the extent to which each change or innovation listed below has been given attention in Agriculture by using the appropriate number responses in the spaces provided.

   1. Major attention - generally adopted
   2. Moderate attention - being tried on a restricted basis
   3. Being considered - under study by a group appointed to consider the change
   4. Rejected - change was considered by a group appointed to consider it and rejected
   5. Dropped - change was discontinued after a trial period
   6. No attention - change not given serious attention
   7. Not applicable in this subject area

Large group instruction	1 2 3 4 5 6 7	_____
Small group discussion	1 2 3 4 5 6 7	_____
Independent study	1 2 3 4 5 6 7	_____
Team teaching	1 2 3 4 5 6 7	_____
Teacher aides	1 2 3 4 5 6 7	_____
Individualization of instruction	1 2 3 4 5 6 7	_____
Problem solving approach	1 2 3 4 5 6 7	_____
Interdisciplinary approach	1 2 3 4 5 6 7	_____
Nongraded programs	1 2 3 4 5 6 7	_____
Continuous progress	1 2 3 4 5 6 7	_____
Others: specify _______________	1 2 3 4 5 6 7	_____
_______________	1 2 3 4 5 6 7	_____
_______________	1 2 3 4 5 6 7	_____

9. How effective are provisions for articulation? Please use the appropriate number responses in the spaces provided below.

1 - Very effective
2 - Effective
3 - Ineffective
4 - No provisions
5 - Not applicable

With feeder schools	1 2 3 4 5	____
Within a department of the school	1 2 3 4 5	____
Within a department of the high schools in the district	1 2 3 4 5	____
Among departments in the school	1 2 3 4 5	____
With postsecondary educational institutions	1 2 3 4 5	____
With occupations following school	1 2 3 4 5	____

10. In what respects is the Agriculture program most successful in meeting the objectives of the school?

11. What procedures do you use in evaluating each of the following aspects of instruction in Agriculture?

A. Subject area content

B. Student achievement

C. Student attitudes and motivation

D. Instructional practices or strategies (e.g., team teaching, independent study, etc.)

12. What are the obstacles to change and improvement in the Agriculture program?

13. In what respects can the Agriculture program be improved?

14. What are the specific plans for change and improvement in the Agriculture program?

Names and positions of staff members who completed this section

____

____

____

____

System Code _____ School Code _____

16. Special Education

The purpose of this section is to gather data basic to the formulation of recommendations related to the improvement of the program in Special Education in the high schools of Massachusetts; it is not to attempt an evaluation of the quality of teaching performance in an individual high school.

1. Please supply the data indicated below for each program function.

   The reimbursement classification refers to the classification used by the Massachusetts Department of Education. Column I - special schools, Column II - special classes, Column III - joint program between towns, Column IV - home instruction, Column V - itinerant teachers, Column VI - recreational programs, Column VII - occupational training.

   Please use the Massachusetts Department of Education definition of full-time equivalents which is "...based on a five-day week and a five-period (hour) day. Thus a music teacher who is in five different schools one day each week is .2 of a teacher in each school. A teacher/principal who has two classes a day is .6 administrator and .4 teacher."

Program function	Enrollment by reimbursement classification								FTE of teachers	No. of handicapped students in regular classes
	I	II	III	IV	V	VI	VII	To.		
Aphasic										
Blind										
Deaf										
Emotionally disturbed										
Hearing impaired										
Mentally retarded										
Perceptually handicapped										
Physically handicapped										
Speech handicapped										
Visually handicapped										
Other: specify ____________										

2. Name the programs in Special Education that have been added during the past five years.

3. Name the programs in Special Education that have been dropped during the past five years.

4. Indicate below the specialists available to serve assessment and referral needs.

Audiologist ______
Educational diagnostician ______
General medical practitioner ______
Neurologist ______
Occupational therapist ______
Opthalmologist ______
Otologist ______
Pediatrician ______
Physical therapist ______
Psychiatrist ______
School psychologist ______
Social worker ______
Speech therapist ______
Others: specify ____________________ ______
____________________ ______

5. Indicate below the adequacy of facilities (instructional areas) and equipment for providing an optimum program for each of the functions listed. Please use the appropriate number responses in the spaces provided below.

1 - Very adequate
2 - Adequate
3 - Inadequate

	Facilities	Equipment
Aphasic	1 2 3 ______	1 2 3 ______
Blind	1 2 3 ______	1 2 3 ______
Deaf	1 2 3 ______	1 2 3 ______
Emotionally disturbed	1 2 3 ______	1 2 3 ______
Hearing impaired	1 2 3 ______	1 2 3 ______
Mentally retarded	1 2 3 ______	1 2 3 ______
Perceptually handicapped	1 2 3 ______	1 2 3 ______
Physically handicapped	1 2 3 ______	1 2 3 ______
Speech handicapped	1 2 3 ______	1 2 3 ______
Visually handicapped	1 2 3 ______	1 2 3 ______
Other: specify ____________	1 2 3 ______	1 2 3 ______
____________	1 2 3 ______	1 2 3 ______

6. What procedures do you use in evaluating each of the following aspects of your program in Special Education?

   A. Program content

   B. Student achievement

   C. Student attitudes and motivation

   D. Instructional practices or strategies (e.g., team teaching, independent study, etc.)

7. In what respects is the Special Education program most effective?

8. In what respects is the Special Education program most in need of improvement?

9. What are your specific plans for change and improvement in the Special Education program?

Names and positions of staff members who completed this section

18. All Subject Areas

1. Please indicate below your minimum requirements for graduation.

Subject	No. of units or credits needed for graduation	
	Units	Credits
English		
Social Studies		
Mathematics		
Science		
Physical Education		
Health		
Other: specify ______________ ______________		
Total		

2. Indicate below the total number of units or credits needed for graduation.

______ or ______
units credits

3. Please indicate below the "new" subjects offered.

BSCS Biology	______
PSSC Physics	______
CHEM Study Chemistry	______
CBA Chemistry	______
SMSG Mathematics	______
UICSM Mathematics	______
ECSP Physical Science	______
SSSP Physical Science	______
Humanities	______
Other: specify ______________	______
______________	______

4. Does the schedule permit a student to study in any one year a combination of seven subjects such as English, mathematics, science, a foreign language, social studies, physical education, and art or music?

Yes _____
No _____

5. Taking into consideration the entire program of the school, how effective are provisions for the types of articulation listed below?

1 - Very effective
2 - Effective
3 - Ineffective
4 - No provisions
5 - Not applicable

With feeder schools 1 2 3 4 5 _____
Within a department of the school 1 2 3 4 5 _____
Within a department of the high schools in the district 1 2 3 4 5 _____
Among departments in the school 1 2 3 4 5 _____
With postsecondary educational institutions 1 2 3 4 5 _____
With occupations following school 1 2 3 4 5 _____

6. In effecting change and innovation in the improvement of the curriculum and instruction to what degree do the principal and the school staff have the responsibility, authority, resources and time to effect such changes? Please use the appropriate number responses in the spaces provided below.

1 - Very adequate
2 - Adequate
3 - Inadequate

Responsibility 1 2 3 _____
Authority 1 2 3 _____
Resources 1 2 3 _____
Time 1 2 3 _____

PLEASE ENCLOSE A COPY of your course listings or program of studies for the current semester.

Names and positions of staff members who completed this section

_____

_____

_____

_____

System Code_____ School Code_____

Section D: Guidance Services

1. Who administers and coordinates the program?

Principal _____
Assistant Principal _____
Guidance Director _____
Guidance committee _____
Other: specify __________ _____
__________________________ _____

2. What is the number of full-time counselors? _____

3. What is the number of part-time counselors? _____

4. What is the ratio of counselors to students?

The equivalent of one full-time counselor per 199 or fewer students _____
1:200 - 299 _____
1:300 - 399 _____
1:400 - 499 _____
1:500 - 599 _____
1:600 or more students _____

5. How effectively are the following guidance functions and services performed in the school? Please use the appropriate number responses in the spaces provided below.

1 - Very effective
2 - Effective
3 - Ineffective

Individual counseling	1 2 3	_____
Small group counseling	1 2 3	_____
Guidance classes	1 2 3	_____
Provision of educational and occupational information	1 2 3	_____
Teacher consultation	1 2 3	_____
Parent consultation	1 2 3	_____
Test administration	1 2 3	_____
Involvement in curriculum development	1 2 3	_____
Referral to specialists (e.g., psychologists, speech therapist, etc.)	1 2 3	_____
Cooperation with community agencies	1 2 3	_____
Follow-up studies	1 2 3	_____
Educational placement	1 2 3	_____
Occupational placement	1 2 3	_____
Others: specify ____________________	1 2 3	_____
____________________	1 2 3	_____
____________________	1 2 3	_____

6. What practices would most improve the effectiveness of the guidance program? Please use the appropriate number responses in the spaces provided below.

1 - Significant positive effect
2 - Positive effect
3 - Neither a positive nor a negative effect
4 - Negative effect

Decrease the number of students per counselor 1 2 3 4 _____
Have only full-time counselors 1 2 3 4 _____
Strengthen the teachers' role in guidance 1 2 3 4 _____
Provide additional clerical help 1 2 3 4 _____
Assign paraprofessionals for informal work with students 1 2 3 4 _____
Allocate increased staff time to evening hours and Saturdays for closer home-school contacts 1 2 3 4 _____
Increased use of testing 1 2 3 4 _____
Improved records of student's performance 1 2 3 4 _____
More extensive follow-up after graduation or withdrawal 1 2 3 4 _____
Improved referral resources (e.g., specialists, community agencies) 1 2 3 4 _____
Other: specify ____________________ 1 2 3 4 _____
______________________________ 1 2 3 4 _____
______________________________ 1 2 3 4 _____

7. Describe briefly the teachers' role in the guidance program.

____

____

____

____

8. Indicate the referral sources available to the guidance program.

Psychologist ______
Psychiatrist ______
Social worker ______
Adjustment counselor ______
Speech therapist ______
Reading clinic ______
Others: specify ____________ ______
________________________________ ______
________________________________ ______

9. Please indicate below the tests administered to groups of students. Indicate by a check if the tests are given to all or nearly all of the members of the grade level shown as a part of the established testing program.

Tests	Administered to groups of students	Administered to all or nearly all of the members of grade			
		9	10	11	12
Paper-and-pencil intelligence tests					
Multiple aptitude batteries					
Reading tests					
Standardized achievement tests					
Interest inventories					
Personality or adjustment inventories					
Locally devised tests or inventories					
Special aptitude tests, e.g., art, music, etc.					
Tests associated with contests					
Employment test batteries					
Tests for scholarships					
Tests for college entrance					
Other: specify ____________ ________________________					

10. Which of the following tests are administered to individual students and with what frequency? Please use the appropriate number responses in the spaces provided below.

1 - Very frequently
2 - Frequently
3 - Seldom

Individual intelligence tests	1 2 3	_____
Projective personality tests	1 2 3	_____
Reading tests	1 2 3	_____
Speech tests	1 2 3	_____
Special aptitude tests, e.g., art, music, etc.	1 2 3	_____
Other: specify ____________________	1 2 3	_____
____________________	1 2 3	_____
____________________	1 2 3	_____

11. In what respects are the guidance services most effective?

12. In what respects are the guidance services most in need of improvement?

Names and positions of staff members who completed this section

____

____

____

____

System Code ___ School Code ____

Section E: Student Withdrawals and Educational and Occupational Intentions

1. The percentage of students who enrolled at some time in the class of 1969 whom you later classified as dropouts is

0 - 5%	_____
6 - 10%	_____
11 - 15%	_____
16 - 20%	_____
21 - 25%	_____
26 - 30%	_____
31% or more	_____

2. Indicate below the educational and occupational intentions of members of the present senior class. If the data are not available, it is hoped that the school will request them from all seniors.

Intentions	Boys	Girls	Total	
			Number	Percent
Attend 4-year college or university				
Attend junior or community college				
Attend other postsecondary school, e.g., business college or technical institute				
Continue education but undecided on type of school				
Stop formal education upon graduation				
Undecided about further education				
Military service				
Work				
Undecided				
Total members of senior class				

Names and positions of staff members who completed this section

____

____

____

____

System Code_____ School Code _____

Section F: School Staff and Administration

1. Numerical assignment of certified professional staff. Please indicate in the following table the number of different persons on the professional staff and the full-time equivalency for the performance of duties related to the school by such persons for the positions indicated.

Position	Number of Different Persons	Full-time Equivalency in Position for the School
A. CENTRAL OFFICE Superintendent		
Asst. superintendent		
Specialists and consultants		
Sub-total		
B. HIGH SCHOOL Principal		
Asst. principal(s)		
Dept. chairmen		
Classroom teachers		
Other teaching personnel*	XXX	
Guidance counselor(s)		
Librarian(s)		
Audio-visual specialists		
Health service personnel		
Special education personnel		
Others: specify __________ __________________		
Sub-total		
Total Number & Full-time Equivalency		

Total pupil membership as reported above for October 1, 1969	Total full-time equivalency of prof. staff	Pupil-prof. staff ratio Col. 1 divided by Col. 2 (carry to one decimal place)
÷	=	

*Indicate full-time equivalency for those staff members holding other positions who have teaching assignments, such as department chairmen & guidance counselors

2. Numerical assignment of non-professional staff in the school

Non-Professional Staff	Number Full-time	Part-time
Secretaries and clerks		
Teacher aides-paraprofessional		
Custodial and maintenance personnel		
Security personnel		
Food service personnel		
Others: specify ______________________ ______________________________ ______________________________		
Total non-professional staff		

3. Indicate the number of teachers, if any, who are assigned to teach outside their major or minor field of specialization.

____

4. Indicate in Column I, by figures 1-6, the priority in importance which the principal assigns to each responsibility listed below. Figure 1 = most important; 6 = least important. Record in Columns II and III the percentages of time which the principal and his administrative staff spend on each.

Responsibility	Assignment of Priority in Importance I	Percentage of Time Spent by Principal II	Percentage of Time Spent by Principal's Administrative Staff III
Managerial			
Curriculum development			
Leadership in staff improvement			
Community relations			
Student relations			
Student activities program			
Other: specify __________ ____________________ ____________________			

5. What is the role of the principal and his administrative staff in the preparation of the budget for this school?

Prepared by the central office ______
Make recommendations; budget is prepared by the central office ______
Plan, recommend and defend specific requests before final decisions are made ______

6. What is the role of the principal and his administrative staff in the selection of certified professional personnel?

Assignments are made by central office ______
Request staff allocation and accept-reject among the candidates recommended by central office ______
Request staff allocation, review personnel records, interview applicants, and recommend for assignment the applicants considered qualified ______
Employ certified personnel without the direct assistance of the central office ______

7. Indicate the number of the professional staff in the school who participated during the past year in the following activities. If the data are not available, it is hoped that the school will request them from all members of the professional staff.

Activities

University courses - evenings or summer ______
Summer employment related to teaching ______
Curriculum workshop ______
Meetings of professional organizations ______
Individual research related to teaching ______
Writing for publication ______
Other: specify ______________________ ______
______________________________________ ______
______________________________________ ______

8. Indicate the number of the following types of professional meetings held in the school during the past school year.

General faculty meetings ______
Departmental faculty meetings ______
In-service seminars ______
Half or full-day in-school institutes ______
Curriculum development meetings ______
Other: specify ______________________ ______
______________________________________ ______
______________________________________ ______

9. Does the school employ teaching personnel during the summer months for professional work?

Yes ______
No ______

If "yes," indicate the number of teachers who were employed in the following assignments.

Summer school ______
Curriculum work ______
Summer recreation work ______
Federally-assisted programs ______
Other: specify ______________________ ______
______________________ ______
______________________ ______

10. Which of the following standing committees are now operating in the school?

Curriculum committee ______
Principal's advisory committee ______
Faculty-student committee ______
Human relations committee ______
Community advisory committee ______
Other: specify ______________________ ______
______________________ ______
______________________ ______

11. In what respects are the school staff and administration most effective in achieving the major objectives of the school?

12. In what respects can the work of the school staff and administration achieve with increased effectiveness the major objectives of the school?

Names and positions of staff members who completed this section

____
____
____

System Code _____ School Code _____

G-1

Section G: Student Activities Program

1. Who administers and coordinates the program?

Principal _____
Assistant Principal _____
Activities Director _____
Advisory council _____
Other: specify ____________________ _____

2. Is there at least one faculty sponsor for each activity?

Yes _____
No _____

3. Indicate the number of persons, if any, who are not members of the professional staff in the school who have activity assignments.

Categories of Activities	Prof. staff members in system but not in this school	Other
Publications		
Music		
Dramatics & speech		
Boys' interscholastic		
Girls' interscholastic		
Boys' intramural		
Girls' intramural		
Clubs		
Service organizations		
Other: specify ______________ ______________________________		

4. How extensive is the participation of students, faculty, and the administration in cooperatively developing policies and in effecting satisfactory practices in school government? Please use the appropriate number responses in the spaces provided below.

1 - Very extensive
2 - Extensive
3 - Not extensive

	Policies	Practices
Functioning of student council (or similar body)	____	____
Student behavior and dress	____	____
Protection and care of school property	____	____
Student morale and school spirit	____	____
General welfare of the student body	____	____
School social activities	____	____
Community service activities	____	____
Interschool relations	____	____
Others: specify ____________________	____	____
______________________________	____	____
______________________________	____	____

5. Has the school experienced any form of student protest?

Yes ____
No ____

If "yes," indicate briefly the causes.

6. Has the school and/or school system developed written policies or guidelines for dealing with student demonstrations or other forms of student protest?

Yes ____
No ____

If "yes," PLEASE ENCLOSE A COPY.

12. Indicate the adequacy of funding, regardless of source, for the following activities.

	Inadequate	Adequate
Publications		
Music		
Dramatics and speech		
Boys' interscholastic		
Girls' interscholastic		
Boys' intramural		
Girls' intramural		
Clubs		
Service organizations		
Others: specify ______		

13. Are staff members who sponsor activities compensated for their services in addition to regular salaries?

Yes ______

No ______

Note: If "yes," PLEASE ENCLOSE A COPY OF REIMBURSEMENT SCHEDULE.

14. In what respects is the student activities program most effective?

15. In what respects is the student activities program most in need of improvement?

Names and positions of staff members who completed this section

7. Please indicate the number of different activities in each of the following categories during the school year 1968-69. Also, indicate the number of students participating in each category.

Categories of Activities	No. of Activities	No. of Students Participating
Publications		
Music		
Dramatics & speech		
Boys' interscholastic		
Girls' interscholastic		
Boys' intramural		
Girls' intramural		
Clubs		
Service organizations		
Others: specify ______________ ______________________		

PLEASE ENCLOSE, if available, a list of student activities and/or student handbook.

8. What percent of the student body participated in at least one activity during the past school year?

81 - 100% ______
61 - 80% ______
41 - 60% ______
21 - 40% ______
0 - 20% ______

9. What are the deterrents, if any, to student participation?

   Cost to student ______
   Lack of student interest ______
   Limited physical facilities ______
   Lack of sufficient qualified and interested sponsors ______
   Financial support ______
   Eligibility requirements ______
   Bus schedules ______
   Work ______
   Early dismissal due to overcrowding ______

10. State the policy which the school has, if any, to prevent over-participation by some students.

11. Indicate below the source of funding for activities, using the following code.

    1 - sole source
    2 - 0 - 25%
    3 - 26 - 50%
    4 - 51 - 75%
    5 - over 75%

Activities	Student Activity Fees	General Taxation	Admission Charges	Others
Publications				
Music				
Dramatics & speech				
Boys' interscholastic				
Girls' interscholastic				
Boys' intramural				
Girls' intramural				
Clubs				
Service organizations				
Others: specify ______ ______ ______				

System Code _____ School Code _____

Section H: Educational Media Services - Library and Audio-Visual

1. Indicate expenditures in 1968-69 for educational media materials.

Library $________
Audio-visual $________

2. Indicate expenditures in 1968-69 for educational media equipment.

Library $________
Audio-visual $________

3. Clock hours of service of staff in school

Total number of hours per week of all full-time and part-time professional librarians _____

Total number of hours per week of all full-time and part-time professional audio-visual personnel _____

Total number of hours per week of all OTHER professional personnel with part-time library and audio-visual assignments _____

Total number of hours per week of all paid clerical, technical, and other non-professional personnel _____

Total number of hours per week of all student aides _____

4. How adequate is the educational media staff to serve the needs of students and teachers? Please use the appropriate number responses in the spaces provided below.

1 - Very adequate
2 - Adequate
3 - Inadequate
4 - Not available

Educational media (supervisor or director) 1 2 3 4 _____
Librarian(s) 1 2 3 4 _____
Library clerk(s) 1 2 3 4 _____
Audio-visual clerk(s) 1 2 3 4 _____
Audio-visual technician(s) 1 2 3 4 _____
Student aides 1 2 3 4 _____

5. To what degree are teachers involved in the selection of library and audio-visual materials and equipment? Please use the appropriate number responses in the spaces provided below.

1 - Very adequate
2 - Adequate
3 - Inadequate

Library 1 2 3 ____
Audio-visual 1 2 3 ____

6. Indicate the percentage of the total enrollment that can be seated in the library.

1 - 5% ____
6 - 10% ____
11 - 15% ____
16 - 20% ____
More than 20% ____

7. Is the library used as a study hall?

Yes ____
No ____

If "yes," please indicate the percentage of the seats which are used in this way during the day.

____%

8. Indicate the amount of space available for the implementation of the following educational media functions of the school. Also, please indicate the amount of additional space needed. If precise figures are not readily available, please use estimates.

Functions	Space available in sq. ft.	Additional space needed in sq. ft.
Circulation and distribution-library	____	____
Reading and browsing	____	____
Individual study (carrels)	____	____
Individual viewing & listening	____	____
Conference	____	____
Group instruction	____	____
Administration	____	____
Cataloging and processing	____	____
Maintenance and repair	____	____
Storage - library	____	____
Media production	____	____
Distribution & storage - audio-visual	____	____
Center for professional materials for staff	____	____

9. Are the following educational media materials available and to what extent do they serve student and faculty needs? Please use the appropriate number responses in the spaces provided below.

1 - Very adequate
2 - Adequate
3 - Inadequate
4 - Not available

	Materials Available		Extent materials serve student & faculty needs	
Books	1 2 3 4	_____	1 2 3 4	_____
Magazines	1 2 3 4	_____	1 2 3 4	_____
Newspapers	1 2 3 4	_____	1 2 3 4	_____
Pamphlets	1 2 3 4	_____	1 2 3 4	_____
Films	1 2 3 4	_____	1 2 3 4	_____
Filmstrips	1 2 3 4	_____	1 2 3 4	_____
Slides	1 2 3 4	_____	1 2 3 4	_____
Tape & disc recordings	1 2 3 4	_____	1 2 3 4	_____
Graphic materials	1 2 3 4	_____	1 2 3 4	_____
Globes	1 2 3 4	_____	1 2 3 4	_____
Maps	1 2 3 4	_____	1 2 3 4	_____
Microform	1 2 3 4	_____	1 2 3 4	_____
Transparencies	1 2 3 4	_____	1 2 3 4	_____
Programed instructional materials	1 2 3 4	_____	1 2 3 4	_____
Other: specify ______________	1 2 3 4	_____	1 2 3 4	_____
______________________	1 2 3 4	_____	1 2 3 4	_____
______________________	1 2 3 4	_____	1 2 3 4	_____

10. Are the following items of educational media equipment available and to what extent do they serve student and faculty needs? Please use the appropriate number responses in the spaces provided below.

1 - Very adequate
2 - Adequate
3 - Inadequate
4 - Not available

	Equipment Available		Extent equipment serves student & faculty needs	
Motion picture projectors	1 2 3 4	_____	1 2 3 4	_____
Filmstrip projectors	1 2 3 4	_____	1 2 3 4	_____
Overhead projectors	1 2 3 4	_____	1 2 3 4	_____
Opaque projectors	1 2 3 4	_____	1 2 3 4	_____
Microprojector	1 2 3 4	_____	1 2 3 4	_____
Screens	1 2 3 4	_____	1 2 3 4	_____
Record players	1 2 3 4	_____	1 2 3 4	_____
Tape recorders	1 2 3 4	_____	1 2 3 4	_____
Radio receivers	1 2 3 4	_____	1 2 3 4	_____
Television receivers	1 2 3 4	_____	1 2 3 4	_____
Micro-reader	1 2 3 4	_____	1 2 3 4	_____
Video tape recorder system	1 2 3 4	_____	1 2 3 4	_____
Computer terminals	1 2 3 4	_____	1 2 3 4	_____
Local production equipment	1 2 3 4	_____	1 2 3 4	_____
Other: specify ______________	1 2 3 4	_____	1 2 3 4	_____
______________________	1 2 3 4	_____	1 2 3 4	_____

11. In what respects are the educational media services most effective?

12. In what respects are the educational media services most in need of improvement?

13. What steps are being planned to improve existing deficiencies in the educational media services?

Names and positions of staff members who completed this section

System Code _____ School Code _____

Section I: School Physical Facilities

1. How many classrooms are presently in use? _____

2. How many new classrooms are needed at present
   to relieve existing overcrowded conditions _____
   to replace buildings or sections of buildings which should be abandoned _____
   to accommodate increased enrollments anticipated by Fall 1972 _____
   to accommodate new programs _____

3. How many classrooms are in need of substantial renovation in buildings too good to abandon? _____

4. To what extent are specialized facilities adequate to provide for present and for new programs and services? Please use the appropriate number responses in the spaces provided below.

   1 - More than adequate
   2 - Adequate
   3 - Inadequate
   4 - Severely inadequate

	Present Programs and Services	New Programs and Services
Shops	1 2 3 4 _____	1 2 3 4 _____
Laboratories	1 2 3 4 _____	1 2 3 4 _____
Music	1 2 3 4 _____	1 2 3 4 _____
Art	1 2 3 4 _____	1 2 3 4 _____
Health	1 2 3 4 _____	1 2 3 4 _____
Physical Education	1 2 3 4 _____	1 2 3 4 _____
Auditorium	1 2 3 4 _____	1 2 3 4 _____
Cafeteria	1 2 3 4 _____	1 2 3 4 _____
Large group instruction	1 2 3 4 _____	1 2 3 4 _____
Seminar rooms	1 2 3 4 _____	1 2 3 4 _____
Learning resource centers	1 2 3 4 _____	1 2 3 4 _____
Conference rooms	1 2 3 4 _____	1 2 3 4 _____
Administrative offices	1 2 3 4 _____	1 2 3 4 _____
Teacher offices	1 2 3 4 _____	1 2 3 4 _____
Teacher work spaces	1 2 3 4 _____	1 2 3 4 _____
Medical services	1 2 3 4 _____	1 2 3 4 _____
Guidance services	1 2 3 4 _____	1 2 3 4 _____
Storage	1 2 3 4 _____	1 2 3 4 _____
Others: specify _____________	1 2 3 4 _____	1 2 3 4 _____
___________________________	1 2 3 4 _____	1 2 3 4 _____
___________________________	1 2 3 4 _____	1 2 3 4 _____

5. To what extent has the school been constrained during the past five years in designing innovative educational programs due to the inflexibility and/or inadequacy of physical facilities?

Constrained to a great degree ______
Constrained to a moderate degree ______
Constrained little, if at all ______

6. In what respects are the school facilities most effective?

7. In what respects are the school facilities most in need of improvement?

Names and positions of staff members who completed this section

____

____

____

____

System Code ____ School Code ____

Section J: School-Community Relations

1. To what extent are lay people from the community involved in the program conducted by the school? Please use the appropriate number responses in the spaces provided below.

1 - Very frequently or frequently
2 - Sometimes
3 - Never or almost never

Over-all educational planning	1 2 3	____
Advisers for special instructional programs	1 2 3	____
Planning and/or supervising supplementary educational experiences for students	1 2 3	____
Over-all evaluation of this school's program	1 2 3	____
Planning and/or supervising aspects of the student activity program	1 2 3	____
Educational and occupational information conferences	1 2 3	____
Others: specify ____________ ____________ ____________	1 2 3	____

2. Indicate the extent to which civic and community organizations use school facilities by checking one of the following responses.

Not at all	____
Several times a year	____
About once a month	____
Several times a month	____

3. Various communication media are available to schools. Which ones are used in your school and with what effectiveness? Please use the appropriate number responses in the spaces provided below.

1 - Used with significant positive effect
2 - Used with moderate positive effect
3 - Used with probable negative effect
4 - Available, but not currently used
5 - Unavailable or not existing

Local radio	1 2 3 4 5	____
Local television	1 2 3 4 5	____
Local and/or general newspapers	1 2 3 4 5	____
Publications prepared by school personnel	1 2 3 4 5	____
Student newspaper and/or annual	1 2 3 4 5	____
Staff and/or student appearances before community groups	1 2 3 4 5	____
School performances	1 2 3 4 5	____
School open houses	1 2 3 4 5	____

Staff affiliations with civic and Community organizations	1 2 3 4 5	______
Others: specify ______________	1 2 3 4 5	______
______________	1 2 3 4 5	______
______________	1 2 3 4 5	______

4. What organizations does the school sponsor in its program of community-school-parent relations?

Parent-Teacher Association	______
Parent Teacher Student Council	______
Lay Advisory Council	______
Special advisory committees	______
Mothers' Club	______
Dads' Club	______
Others: specify ______________	______
______________	______
______________	______

5. In what respects are school-community relations most satisfactory?

6. In what respects are school-community relations most in need of improvement?

7. Explain briefly any significant economic and sociological changes in your school community in the past five years which have important implications for the educational program and for the responsibilities of the principal? Also, please comment on steps taken by the school to meet these changes.

Names and positions of staff members who completed this section

____

____

____

System Code _____ School Code _____

Section K: Financial Resources

The following financial data are requested for the fiscal year July 1, 1968 - June 30, 1969.

Amount

1. Expenditure (not including capital outlay) of this school per student in average daily attendance $_____

2. Equalized valuation per school attending student $_____

3. To what extent are financial constraints affecting the school and its operation in the areas listed below. Please use the appropriate number responses in the spaces provided below.

   1 - Seriously
   2 - Moderately
   3 - Little

   Building facilities 1 2 3 _____
   Professional staffing 1 2 3 _____
   Non-professional staffing 1 2 3 _____
   Instructional equipment and supplies 1 2 3 _____
   New programs and services 1 2 3 _____
   Other: specify _______________ 1 2 3 _____
   _______________ 1 2 3 _____
   _______________ 1 2 3 _____

4. Please state the school's immediate and long-range financial concerns.

Names and positions of staff members who completed this section

____

____

____

____

System Code ____________ School Code __________

A STUDY OF THE COMPREHENSIVE HIGH SCHOOL IN MASSACHUSETTS

DATA FORM: SUPERINTENDENTS

Name of High School ____

Address of High School ____
(Street) (City/Town)

Name of Superintendent ____

Please answer the questions on the attached data form and hold it until a member of the visiting team confers with you. The questions are designed to structure a part of the conference. They may not, however, identify the major points which you consider important in the further improvement of your program and services. If not, please enumerate such points under item "8. Additional comments on needs, issues, and problems which you believe are critical."

1. What major changes in educational objectives and philosophy should be made in your high school during the next 5 years?

2. What major changes in the programs and services of your high school should be accomplished during the next 5 years?

3. What educational needs of your community should be assumed or expanded by other agencies during the next 5 years? 10 years? What programs should be operated cooperatively by the high school and other agencies?

4. Explain briefly any significant economic and sociological changes in your school community in the past five years which have important implications for the educational program. Also, please comment on steps taken by the school to meet these changes.

5. Sources of present school funds:

	Local	State	Federal	Non-tax Sources (Tuition, donations)
(1) Regular Day High School	_____%	_____%	_____%	_____%
(2) Extended Year (Summer School)	_____%	_____%	_____%	_____%
(3) Part-Time Programs for Adults and School Dropouts	_____%	_____%	_____%	_____%

6. Assuming present price levels, please estimate needed increases over your 1969-70 current operating budget for the high school for the following:

(1) To improve staffing _____%

(2) To improve supportive services, instructional equipment and materials, and other inputs _____%

(3) To develop new programs _____%

7. Assuming present price levels, please estimate the annual expenditure needed in your high school for each of the next 5 years to achieve an adequate status of capital facilities (buildings and facilities) for the operation of educational programs you believe will be needed by 1975, including present and projected enrollments. $____________.

8. Additional comments on needs, issues, and problems which you believe are critical.

System Code ____________ School Code ____________

A STUDY OF THE COMPREHENSIVE HIGH SCHOOL IN MASSACHUSETTS

DATA FORM: PRINCIPALS

Name of High School ____

Address of High School ____
(Street) (City/Town)

Name of Principal ____

Please answer the questions on the attached data form and hold it until a member of the visiting team confers with you. The questions are designed to structure a part of the conference. They may not, however, identify the major points which you consider important in the further improvement of your program and services. If not, please enumerate such points under item "13. Additional comments on needs, issues, and problems which you believe are critical."

1. What major changes should be made in the programs and services of this school during the next 5 years?

2. Is there a planned program of action for implementing the changes mentioned in question "1" during the next 5 years? Please comment.

3. What kinds of help do you need to implement the changes referred to in questions "1" and "2"?

4. What is your role in the improvement of the curriculum and instruction? Please be as specific as possible. For example, the role might be to provide time for one or more committees of teachers or it might be to provide such time and, in addition, to meet regularly with them.

5. What, if any, are the deterrents to your participation in the improvement of the curriculum and instruction? If there are several, please list them in order of importance.

6. The following quotations are from the MACE STUDY, Occupational Education for Massachusetts, June, 1968, pages 231, 232, and 235, by Carl J. Schaefer and Jacob J. Kaufman.

"First, it is recognized that the educational system must serve basically three groups in the secondary schools. One group includes those students who will probably enter college and enroll in an academic curriculum. Although the investigators have views on the adequacy of the existing academic curriculum, they have, in general, refrained comment because they did not consider the issue to be within the purview of the study. A second group includes those students who are highly motivated and academically qualified to enroll in a curriculum which would provide them with high level skills. This group might represent only about five to eight percent of the student population in the secondary schools, a percentage significantly lower than the present enrollment in vocational-technical education. A third group consists of students who, because of certain economic and social factors over which they have no control, do not find either of these curricula relevant to their aspirations, needs, and interests. This group might well represent from 40 to 60 percent of the secondary school population...

"The Careers Development Curriculum recommended is similar to attempts already being made by a few farsighted school administrators for the needs of approximately 40 to 60 percent of the high school student population. Such a curriculum must be designed for students with special needs--those who are held back by their socio-economic backgrounds and those who evidence little interest or talent in academic or vocational pursuits."

What is your estimate of the percentage of students in your school "...who, because of certain economic and social factors over which they have no control, do not find either of these curricula (college-preparatory or highly skilled vocational) relevant to their aspirations, needs, and interests."?

__________%

7. Does the Careers Development Curriculum seem to you to be the best way to meet the needs of the students in your school who do not find either the college preparatory or the highly skilled vocational curricula relevant?

Yes _____
No ______

Please comment.

8. If you are not in a vocational-technical high school, do you believe that your program is articulated effectively with the programs in vocational-technical high schools?

Yes _____
No ______

Please comment.

9. If you are in a vocational-technical high school, do you believe that your program is effectively articulated with the programs in non-vocational high schools?

Yes _____
No _____

Please comment.

10. What agencies in the community are having a significant influence on the educational program of the school? The agencies might be educational (libraries, vocational schools, colleges) recreational, cultural, religious, business and industry, labor, etc.

Agencies ____

____

____

Please comment on the nature of the influence.

11. Is student unrest or militancy (fights among students, student attacks on teachers, use of drugs, racial conflicts, etc.) a critical problem in your school?

Yes _____
No ______

Please comment.

12. Is "teacher power" a critical problem in your school?

Yes _____
No ______

Please comment.

13. Additional comments on needs, issues, and problems which you believe are critical.

APPENDIX B

Thirty-three Representative Schools

Thirty-three Representative Schools

Attleboro Vocational-Technical High School, Attleboro
Barnstable Vocational High School, Hyannis
Boston Trade High School, Toxbury
Cohasset High School, Cohasset
Frontier Regional High School, South Deerfield
Gateway Regional Junior-Senior High School, Huntington
Greater Lawrence Regional Vocational-Technical High School, Andover
Hamilton-Wenham Regional High School, Hamilton
Haverhill High School, Haverhill
Hingham High School, Hingham
Holbrook High School, Holbrook
Hopkinton Junior-Senior High School, Hopkinton
Hyde Park High School, Hyde Park
Jeremiah E. Burke High School, Dorchester
Leominster Trade High School, Leominster
Lexington High School, Lexington
C. H. McCann Vocational-Technical High School, North Adams
Manchester Junior-Senior High School, Manchester
Martha's Vineyard Regional High School, Oak Bluffs
Monson Junior-Senior High School, Monson
Monument Mountain Regional High School, Great Barrington
Nantucket High School, Nantucket
Northbridge Junior-Senior High School, Whitinsville
North Middlesex Regional High School, Townsend
Norton High School, Norton
Quincy High and Vocational-Technical School, Quincy
Roslindale High School, Roslindale
Sharon High School, Sharon
Southeastern Regional Vocational-Technical High School, South Easton
Springfield Trade High School, Springfield
Stoneham High School, Stoneham
Waltham High School, Waltham
Westfield High School, Westfield